DEPARTMENT OF THE INTERIOR

Bureau of Reclamation

43 CFR Part 418

RIN 1006–AA37

Adjustments to 1988 Operating Criteria and Procedures (OCAP) for the Newlands Irrigation Project in Nevada

AGENCY: Bureau of Reclamation, Interior.

ACTION: Final rulemaking.

SUMMARY: This rule adjusts the 1988 Operating Criteria and Procedures (OCAP) for the Newlands Irrigation Project (Project). Adjustments are made to the Project efficiency requirements, maximum allowable diversion calculations, and Lahontan Reservoir storage targets in the 1988 OCAP to reflect current irrigated acreage, court decrees which have lowered the water duty applicable to certain Project lands, and other factors affecting water demand. To better manage diversions from the Truckee River to the Project, the rule provides flexibility to adjust the water supply in response to Project demand, flexibility in using snowpack and runoff forecasts, and extends the time frame for storing water in Truckee River reservoirs in lieu of diversions to the Project from the Truckee River.

DATES: Effective December 16, 1997.

FOR FURTHER INFORMATION CONTACT: Dave Overvold, Acting Area Manager, Lahontan Area Office, Bureau of Reclamation, P.O. Box 640, Carson City, NV 89702, telephone (702) 882–3436; or Jeffrey Zippin, Team Leader, Truckee-Carson Coordination Office, 5665 Morgan Mill Road, Carson City, NV 89701, telephone (702) 887–0640. Copies of Adjusted OCAP regulations may be obtained from either office.

SUPPLEMENTARY INFORMATION:

Background

On April 15, 1988, the Secretary of the Interior (Secretary) implemented new Operating Criteria and Procedures (OCAP) governing management of water diverted to and used within the Newlands Project. These 1988 OCAP were approved by the U.S. District Court for the District of Nevada, subject to a hearing on objections raised by various parties. In 1990, Congress directed in the Truckee-Carson-Pyramid Lake Water Rights Settlement Act (Title II of Pub. L. 101–618, Section 209 (j) (104 Stat. 3294) that the 1988 OCAP remain in effect at least until December 31, 1997, unless changed by the Secretary in his sole discretion. Prior to the proposed rule, the 1988 OCAP had not been published in the **Federal Register**.

These 1988 OCAP were designed to increase the reliance of the Project on water from the Carson River, minimize the use of water from the Truckee River as a supplemental supply, increase efficiency of water use in the Project, and establish a regulatory scheme to manage deliveries to Project water users including incentives for efficiency and penalties for inefficiency.

An environmental impact statement (EIS) was prepared for the 1988 OCAP. That EIS served as the basis for reviewing the environmental effects of these adjustments. The Department of the Interior (DOI) has prepared an environmental assessment on the adjustments which tiers off of the analysis in that EIS. Copies of the environmental assessment may be obtained from the Truckee-Carson Coordination Office.

The Department is making a number of revisions to the 1988 OCAP to adjust for changes in use of water rights, to increase flexibility, and to clarify the language of the OCAP based on experience gained in administering the 1988 OCAP through nine irrigation seasons. These revisions are within the basic framework of the 1988 OCAP and its environmental documentation and are being published for codification.

The need for additional changes to the 1988 OCAP beyond those in this rule may be appropriate as well, but consideration of such changes is expected to require further examination including the preparation of an EIS.

Description of the 1988 OCAP

The 1988 OCAP provisions were preceded by a preamble which is equally applicable to the Adjusted OCAP. The 1988 OCAP preamble is reproduced with minor grammatical editing. The following *1988 OCAP Preamble* is taken from the 1988 OCAP:

1988 OCAP Preamble

The development of Operating Criteria and Procedures for the Newlands Project in western Nevada was initiated in the late 1960's and has proven to be a divisive, contentious issue for the people in Nevada who rely on the waters of the Carson and Truckee Rivers. Competition for the water in the Project's desert environment is intense and growing. The conflicts among uses are clearly apparent in the effects forecast on various areas where the DOI has program responsibilities. The issue is complicated further by the requirements of the Endangered Species Act and the listing of the Cui-ui, a fish inhabiting the lower Truckee River and Pyramid Lake.

In order to proceed effectively and fairly, the DOI had to have guiding principles for the OCAP. These are to:

—Provide water deliveries sufficient to meet the water right entitlements of Project water users;
—Meet the requirements of the Endangered Species Act as they specifically relate to the Truckee River/Pyramid Lake Cui-ui;
—Fulfill Federal trust responsibilities to the Pyramid Lake Paiute Indian Tribe and the Fallon Paiute-Shoshone Tribes;
—Conserve wetland and wildlife values in both the Truckee and Carson River basins;
—Give cognizance to the State laws affecting water rights and uses;
—Provide for stable economies and improve quality of life in the region to the extent it is influenced by the DOI-managed resources and facilities;
—Allow local control and initiative to the maximum extent possible; and
—Provide stability and predictability through straightforward operation based on actual versus forecast conditions.

The DOI believes that the proposed OCAP best satisfy these principles within the limits of the Department's legal authority. Each of the competing uses for the water is critical in its own right. They are all essentially separable for decision making purposes even though they clearly impact upon each other since the available supply is far less than the demand.

The OCAP deal with the operation and use of Federal facilities related to the Newlands Project. Therefore, their primary responsibility is supplying the water rights to the Project water users. To the extent this can be done effectively and efficiently, then the remaining water supply is available for other competing uses. The secondary impacts of the OCAP must, however, act to support or encourage results which benefit the other competing uses.

The basic structure of the OCAP relies on both rules and incentives which we believe will ensure reasonable, efficient water management through reliance on local control and initiatives. The direct consequences of the OCAP will be delivery of full water entitlements within the Newlands Project, protection of endangered species, fulfillment of trust responsibilities, and encouragement for the protection of other environmental and quality of life values.

Adjusted OCAP Proposed Changes

The Notice of Proposed Rulemaking for the Adjusted OCAP, published in the **Federal Register**, 61 FR 64832, December 9, 1996, proposed a number of changes to the 1988 OCAP based, in part, on a comparison of the assumptions in the 1988 OCAP about the size of the Project and patterns of water use with Project size in 1995 and new patterns of water use. Specifically, the changes are:

• *Acreage:* The anticipated increase in acreage has not materialized; actual irrigated acreage in 1995 was 59,075 acres. This amount reflects efforts of the Bureau of Reclamation (BOR) to limit irrigation to water-righted lands and that, on average, irrigators have not

increased the acreage of lands in production. In the Notice of Proposed Rulemaking for Adjusted OCAP, the 1995 preliminary estimate of irrigated acreage for that year was shown in the text as 59,023. However, modeling was based on 59,075 irrigated acres. In this final rule, both the text, tables, and modeling consistently use 59,075 irrigated acres for 1995. When this rule becomes effective, the provisions of section 418.22 will be used to adjust Lahontan Reservoir storage targets to reflect the current water demand.

• *Average Water Duty:* The average water duty for the project has been reduced as a result of the so-called ''bench/bottom'' litigation (1995 Order of Judge McKibben, in *U.S.* v. *Alpine,* United States District Court for the District of Nevada No. D–185). This bench/bottom court ruling approved a change in the designation of some Project lands from bench lands to bottom lands. Bench lands have a maximum water duty of 4.5 acre-feet/acre; bottom lands have a maximum water duty of 3.5 acre-feet/acre. (The Project includes pasture lands with a duty of 1.5 acre-feet/acre.) The bench/bottom decision reclassified approximately 9,000 acres of irrigated lands in the project, reducing Project water entitlements by approximately 9,000 acre-feet. The change in demand is expected to be approximately 5,000 acre-feet of water when measured at the farm headgates. This is based on historic use of about 90 percent of the headgate entitlement at 4.5 acre-feet/acre versus projected use of 100 percent of the 3.5 acre-feet/acre entitlement.

• *Average Use of Entitlement:* Actual water use as a percentage of entitlement is usually less than 100 percent, historically about 90 percent. The reduced percentage of entitlement use results from on-farm practices and efficiencies, fallowing of lands, and varying weather conditions. The current projected percent use of entitlement is 93.4 percent. This is based on irrigation use of 91.8 percent and 95 percent for Carson and Truckee Divisions, respectively, and 100 percent water use for pasture lands and wetlands. Several factors will affect use of entitlement in the future:

—Irrigators whose lands were reclassified from bench lands with a water duty of 4.5 acre-feet per acre to bottom lands with a 3.5 acre-feet per acre duty may use more than 90 percent of their entitlement.

—The Fallon Paiute-Shoshone Tribes reservation is within the Project and the Tribes have a cap on the water they receive. The Tribes are expected to use their full water entitlement under the cap every irrigation season.

—The Naval Air Station Fallon, as part of an agreement with the U.S. Fish and Wildlife Service (FWS), will use less of its irrigation water and is also developing less water intensive cropping strategies, decreasing percent use of entitlement.

—The FWS and the State of Nevada are acquiring water rights within the Newlands Project for restoration of wetlands at Stillwater National Wildlife Refuge. The FWS has been transferring the consumptive use portion, 2.99 acre-feet per acre, of the water rights they acquire. This changes their effective entitlement to 2.99 acre-feet per acre of which they are expected to take 100 percent, thus increasing percent use of entitlement.

These and other changes in water use will cause the percent use of entitlement to vary from year to year. The percent use will be determined based on actual experience and will be used in calculating the expected irrigation diversion for each irrigation season.

• *Efficiency:* Within the same size project, more irrigated acreage results in greater efficiency; with less irrigated acreage lower efficiencies are expected. Project irrigated acreage never reached the level anticipated in the 1988 OCAP but the associated target efficiencies have remained in effect. As water rights are acquired for Stillwater Wildlife Refuge (Pub. L. 101–618, section 206), the effect on Project efficiencies may vary at first, but as more water is acquired and moves to the Refuge, efficiencies should improve stemming from the concentration of deliveries through the system.

This rule addresses only those adjustments to the 1988 OCAP in the following areas:

1. Target Efficiency Adjustments (§§ 418.12 (c)(3), 418.13 (a), and Newlands Project Water Budget table): The 1988 OCAP envisioned and allowed for increasing irrigated acreage, assuming the Project would grow to over 64,850 irrigated acres by 1992 compared to a base of approximately 60,900 acres being irrigated in 1987. The annual calculations of the Maximum Allowable Diversion (MAD) to the Project and efficiency requirements currently in use are based on a Project consisting of 64,850 or more irrigated acres and a commensurate target efficiency of 68.4 percent. However, the acreage increase has not materialized and the 1995 irrigated acreage was approximately 59,075 acres. The Project conveyance efficiency that can be achieved, which is the relationship between the total annual diversion to the Project and total delivery to farm headgates, is directly related to irrigated acreage; efficiency generally decreases as the irrigated acreage in the Project decreases. The 1988 OCAP does not accurately reflect the current acreage, and as a consequence, the higher efficiency requirement remains in effect. This may decrease the water available to the Project as calculated in the MAD and increases the likelihood of penalties for inefficiency.

In response to less irrigated acreage and varying water demand, the DOI will calculate the annual Project water budget for each irrigation season in accordance with the elements in the Newlands Project Water Budget table of the Adjusted OCAP. Each year the MAD will be based on the projected irrigated acreage for that year and applicable water duties. The other elements in Newlands Project Water Budget, including appropriate Project efficiency at 100 percent use, would be calculated to determine the MAD and Project efficiencies for each year. Only the first 10 lines of the water budget would be calculated before the irrigation season to determine the MAD, then the remaining lines would be calculated after the irrigation season to determine target efficiency. Through this approach, the Project water budget can accommodate anticipated changes in Project characteristics.

Using the 1995 Actual Acres column from the Newlands Project Water Budget, Maximum Headgate Entitlement (line 2) is the product of Irrigated Acres (line 1) and the average water duty (calculated annually). Variable distribution system losses of Canals/Laterals Evaporation (line 3), Canals/Laterals Seepage (line 5), and Operational Losses (line 7) are extrapolated to determine the Total Losses (line 8) for a given Project size. The combined Maximum Headgate Entitlement (line 2) and the Total Losses (line 8) determines the MAD (line 9), and the relationship of Maximum Headgate Entitlement (line 2) to Total Losses (line 8) estimates Project Efficiencies at 100 percent water use (line 10). Actual use of entitlement, based on historic patterns, is less than 100 percent (not all irrigators take all of their entitlement each year), so the Maximum Headgate Entitlement is adjusted by the projected percent use of entitlement (calculated annually) to yield Expected Headgate Entitlement Unused (line 11) and the Diversion Reduction for Unused Water (line 12). The Diversion Reduction for Unused Water (line 12) is subtracted from the MAD (line 9) to determine Expected

Irrigation Diversions (line 13). Finally, the adjusted Project demand (calculated from line 2 minus line 11) is divided by the Expected Irrigation Diversions (line 13) to determine the Expected Efficiency (line 14).

The effect of this is to have the Adjusted OCAP more accurately reflect the Project water demand. Reducing the annual Project efficiency target will recognize the limitation of the present water distribution system facilities and assist the Project in achieving efficiency requirements. No changes are proposed for the 1988 OCAP relative to how the MAD is calculated and administered, determination of eligible land, reporting, or calculation of credits or debits.

2. Adjustments to Lahontan Reservoir Storage Targets (§§ 418.20, 418.21, and 418.22, and tables of Monthly Values for Lahontan Storage Computations, End of Month Storage Targets for July Through December, and Adjustments to Lahontan Reservoir Storage Targets): The 1988 OCAP prescribes when water may be diverted from the Truckee River to supplement Carson River inflow to Lahontan Reservoir to serve the Carson Division of the Project. (The Truckee Division of the Project is supplied entirely by water from the Truckee River.) The Truckee River diversion to the Carson Division is governed by end-of-month storage target levels in Lahontan Reservoir. Water is diverted from the Truckee to the Reservoir only if it is forecast that the storage target will not be met by Carson River inflow by the end of the month. In years of low flow on the Carson River, a greater percentage of the Carson Division Project water supply is diverted from the Truckee River. In wet years, the Carson Division supply may come entirely from the Carson River. Thus, storage targets are used to help maintain a steady water supply despite the natural climatic variability and differences in annual runoff between the two river basins.

The formula used to determine how much water may be diverted to Lahontan Reservoir from the Truckee River in January through June relies, in part, on the runoff forecast for the Carson River. The imprecision inherent in such forecasting can lead to variable consequences. Sometimes more Truckee River water is diverted than is needed to serve Project water users. This is particularly problematic when the Carson River fills Lahontan Reservoir to the point that water spills over Lahontan Dam or so that a precautionary spill (release) of water must be made to avoid later flooding. In either situation, spilled water that cannot be transported to water-righted lands or Lahontan Valley wetlands flows into Carson Sink in the desert. This situation occurred most recently in 1995, 1996, and 1997 with the consequence that Truckee River water that could have flowed into Pyramid Lake contributed to water that was spilled.

Because of their imprecision, forecasts for Carson River runoff do not always reflect actual conditions and the water may not materialize. If not enough water was brought over from the Truckee River earlier in the water year, or Truckee River flow is insufficient to make up for the shortfall from the Carson River, then the water supply may be inadequate to meet the annual irrigation demand. This situation occurred in 1994 when the Carson River was forecast to have a 100 percent water year but only produced a 50 percent water supply.

Two of the objectives of OCAP are to minimize spills and moderate shortages. It is important to note that for the 95 years of records, the climatic/hydrologic variability of both rivers is so great that even if there were no limits on the diversion of Truckee River water, in some years shortages would result. Conversely, even if no Truckee River water were diverted, in some years Lahontan Reservoir would spill just from Carson River inflow.

The 1988 OCAP has a June end-of-month storage target of 215,000 acre-feet in Lahontan Reservoir. The 215,000 acre-feet would serve at least 4,000 to 5,000 more acres of water-righted and irrigated land than has been irrigated in actual practice. The reclassification of some bench lands to bottom lands further reduces water demand in the Carson Division. The difference in headgate demand between what the 1988 OCAP projected and current Carson Division demand is approximately 21,000 acre-feet. The current storage targets permit unnecessary diversions from the Truckee River to the Project. The proposed Adjusted OCAP storage targets were based on the lower Carson Division demand and reducing water loss to seepage, evaporation, and spill. Accordingly, the proposed end-of-June storage target was adjusted to 174,000 acre-feet, and the July through December targets were lowered as shown in Table A. However, in this final rule, the end-of-June storage target is 190,000 acre-feet, as shown in the table Monthly Values for Lahontan Storage Calculations (section 418.20 of the rule), while the January–May targets are retained, subject to the adjustment procedures described below. July and August end-of-month storage targets are also increased to help maintain recreation levels in Lahontan Reservoir. This is discussed in the Response to Comments, II.7., in this preamble.

A comparison of the 1988 OCAP, the proposed Adjusted OCAP, and the final Adjusted OCAP storage targets for Lahontan Reservoir are shown in Table A of this preamble. In addition, this final Adjusted OCAP, in response to comments, adopts a flexible storage target regime that can respond to future changes in Project water demand. This is discussed in the Response to Comments, II.1, in this preamble and set out in section 418.22 of the rule. The new storage targets will be used to calculate diversions from the Truckee River in accordance with section 418.20 *et seq.* of the proposed rule.

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TABLE A

TRUCKEE-CARSON MODEL RESULTS FOR ADJUSTED OCAP FOR 1901-1995				
KEY MODELING ASSUMPTIONS[1]	1988 OCAP[2]	Current Condition[3]	Proposed Adjusted OCAP[4]	Final Adjusted OCAP[5]
Newlands Project Diversion Demand	320.0	294.0	294.0	294.0
Newlands Project Acreage	64,800	59,075	59,075	59,075
Newlands Project Use of Entitlement	90.0%	93.4%	93.4%	93.4%
Newlands Project Conveyance Efficiency	66.7%	65.7%	65.7%	65.7%
1 TRUCKEE CANAL				
2 Diversion from Truckee Canal	131.8	113.6	91.2	91.4
3 Truckee Canal Loss	21.1	18.7	16.8	16.8
4 TRUCKEE DIVISION				
5 Diversion Demand	28.00	23.00	23.00	23.00
6 Diversion from Truckee Canal	27.54	22.71	22.71	22.71
7 Diversion Supply (% of demand)	98.36%	98.74%	98.74%	98.74%
8 Percent Use of Entitlement	90.0%	95.0%	95.0%	95.0%
9 LAHONTAN RESERVOIR				
10 Inflow from Truckee Canal	82.9	72.1	51.7	51.9
11 Carson River near Ft. Churchill	289.8	289.8	289.8	289.8
12 Reservoir Loss	39.3	40.8	35.0	35.1
13 Total Release and Spill	332.8	320.7	305.8	305.9
14 Reservoir Spill	48.7	54.2	41.9	42.0
15 CARSON DIVISION				
16 Demand at Lahontan Reservoir	292.0	271.0	271.0	271.0
17 Lahontan Release Shortage	7.98	4.50	7.10	7.05
18 Average Water Supply (% of demand)	97.27%	98.34%	97.38%	97.40%
19 Number of Shortage Years	9	8	9	9
20 Normal Conveyance Efficiency	67.0%	65.0%	65.0%	65.0%
21 Average Percent Use of Entitlement	90.0%	93.2%	93.2%	93.2%
22 PYRAMID LAKE				
23 Truckee River Inflow to Lake	441.3	458.7	480.6	480.5
24 Beginning Elevation (feet)	3,804.0	3,804.0	3,804.0	3,804.0
25 Ending Elevation (feet)	3,824.3	3,831.5	3,841.0	3,840.9
26 Beginning Cui-ui (adult females)	50,000	50,000	50,000	50,000
27 Ending Cui-ui (adult females)	217,100	526,900	1,052,200	1,051,900
28 Number of Cui-ui Spawning Years	73	73	75	75
29 CORE ASSUMPTIONS				
30 Carson Division Acreage Served	60,400	55,075	55,075	55,075
31 Truckee Division Acreage Served	4,400	4,000	4,000	4,000
32 Lahontan End of Month Targets:				
33 January through May	215	215	174	174
34 June	215	215	174	190
35 July	160	160	139	160
36 August	140	140	95	100
37 September	120	120	64	64
38 October	80	80	52	52
39 November	160	160	74	74
40 December	210	210	101	101
41 Lahontan Maximum Storage	295.5	295.5	295.5	295.5
42 Lahontan Minimum Storage	4.0	4.0	4.0	4.0

1. All modeling from the Adjusted OCAP Notice of Proposed Rulemaking (NPR) has been updated for 1995 hydrology and for new operations at Lahontan Reservoir to limit storage to 295,500 acre-feet. At the time of the NPR, the Reservoir was being managed to store additional water on flash boards installed in Lahontan Dam, bringing the storage level to 316,900 acre-feet.
2. All the 1988 OCAP assumptions for 1992, including serving 64,850 irrigated acres, are modeled using the 1901-1995 hydrology. This represents what Project conditions would be today if the 1988 OCAP acreage assumptions had been borne out.
3. Current Condition or No Action models the 1988 OCAP at the 1995 Project acreage level.
4. Proposed Adjusted OCAP has been updated only as noted in footnote 1.
5. Final Adjusted OCAP includes changes to Lahontan Reservoir storage targets.

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The storage targets were developed using the Truckee River settlement negotiations water balance model. The model was used to examine how different storage targets affected spills, inflow to Pyramid Lake, and other parameters. Key assumptions used in modeling were reduced Project water demand from the 1988 OCAP, lower efficiency targets, current Truckee River operations, and Project shortages consistent with the 1988 OCAP. The model uses the 95-year (1901–1995) historic hydrologic record for the Truckee and Carson Rivers.

For the proposed Adjusted OCAP, a series of modeled storage targets was evaluated based on the degree to which a set of targets reduced spills, increased inflow to Pyramid Lake, increased the estimated number of spawning years for cui-ui, increased the estimated number of cui-ui, reduced Lahontan Reservoir and Truckee Canal seepage and evaporation losses, and held frequency and magnitude of Project shortages consistent with the 1988 OCAP. These goals are consistent with the Secretary of the Interior's responsibilities as the District Court ruled in *Pyramid Lake Paiute Tribe of Indians* v. *Rogers C.B. Morton (Tribe* v. *Morton)*, 354 F. Supp. 252 (D.D.C. 1973).

Though not a specific feature of the Adjusted 1988 OCAP, the modeling used in making decisions on this proposed rule took cognizance of the 4,000 acre-foot minimum pool that the Truckee-Carson Irrigation District (TCID), the Project operator, voluntarily has maintained in Lahontan Reservoir to protect fish resources there. Though this action to maintain a minimum pool is purely voluntary on the part of TCID and Newlands Project water right holders, it provides environmental benefits, was assumed to be continued into the future, and was credited in the modeling used to establish new Lahontan storage targets; that is to say, the targets would have been somewhat lower to achieve the same release shortage percentage and Truckee River inflow volume to Lahontan Reservoir assuming no anticipation of the 4,000 acre-foot minimum pool.

Table A presents the model results examined in developing the Adjusted OCAP, and the values are averages for the 95-year period of record. Modeled results for the 1988 OCAP with current hydrology are compared to the Current Conditions, the proposed Adjusted OCAP, and the final Adjusted OCAP. In a number of categories, the modeled results show improvements under the final Adjusted OCAP storage targets as compared with the 1988 OCAP. For example, there is less Truckee Canal loss (line 3), less Lahontan Reservoir loss (line 12), and less Lahontan Reservoir spill (line 14). Compared to the Current Conditions, the final Adjusted OCAP is an improvement in all areas except for Project water supply (line 18) and the additional shortage year (line 19). The modeled reduction of water loss and spill from the Project increases inflow to Pyramid Lake under the final Adjusted OCAP (line 23). Compared to the Current Conditions, approximately 19,800 acre-feet of water is modeled to be saved from the Truckee River under the Final Adjusted OCAP from reduced Truckee Canal loss, reduced Lahontan Reservoir loss, and reduced spills. Of this 19,800 acre-feet of Truckee River water saved, approximately 2,550 acre-feet of the water saved reduces Project water supply compared to Current Conditions.

3. Truckee River Storage in Lieu of Diversions (§ 418.20 (f)): Project diversions from the Truckee River may be fine-tuned by retaining water in upper Truckee River reservoirs that would otherwise have been diverted to Lahontan Reservoir to meet storage targets. Depending upon how much Carson River runoff reaches Lahontan Reservoir and whether storage targets are met by the Carson River inflow, the water retained in storage may be released later in that year and diverted to Lahontan Reservoir for delivery to the Carson Division, or retained for Pyramid Lake if the water is not needed for Carson Division irrigation.

Under the 1988 OCAP, water was allowed to be stored upstream on the Truckee River in lieu of diversion only from April to June. In 1995, this limitation contributed to approximately 80,000 acre-feet of water being diverted from the Truckee River to Lahontan Reservoir before March 31, then spilling because of high Carson River runoff. None of the Truckee River water was needed because the Carson River more than filled Lahontan Reservoir and precautionary releases were made to avoid spilling over the dam. While the 80,000 acre-foot-diversion from the Truckee was controversial, it resulted from managing the diversion in strict adherence with the 1988 OCAP targets. In the 1996 and 1997 water years, respectively, 6,000 and 22,000 acre-feet were diverted from the Truckee River in late fall and winter, and again spilled. It is possible that a similar occurrence may result in the 1998 water year from continued application of the 1988 OCAP storage targets. The proposed Adjusted OCAP provided more flexibility to reduce such unnecessary diversions.

Consistent with managing Project diversions from the Truckee River, the proposed Adjusted OCAP expanded the opportunity to credit store water for the Project in reservoirs on the upper Truckee River by allowing storage as early as January of each year. In this final Adjusted OCAP, Truckee River storage would be allowed as early as November of the previous year. The water would be credited based on water actually retained in Truckee River reservoirs or, if water was not being released for Project diversion, credited as Newlands Project water in Stampede Reservoir adverse to other water (fish water) stored in Stampede Reservoir. In the latter situation, concurrence by the FWS will be required. For example, a reduction of diversions in January through March of 1995, would have required FWS approval to create Newlands Project credit water out of Stampede Reservoir water because water was not being released for Project diversion. Newlands Project credit water could be released for diversion to Lahontan Reservoir, if needed, as early as July 1 through the end of the irrigation season, but not thereafter. The water would only be used for the Carson Division. Water in storage could be exchanged to other reservoirs but it will not carry over to the next year for use in the Project. If it is not used in the year in which it is stored, it will not be available thereafter to the project. To protect the water users, the water held in storage on the Truckee River would not be reduced by evaporation and would be gaged at the US Geological Survey gage on the Truckee Canal near Wadsworth, Nevada, to ensure that diversion to the Project matches the diversion foregone earlier in the season. Water could spill, but if spilled, it would be subject to diversion to Lahontan when needed to meet storage targets. Water stored but not needed for the Project would be managed to benefit cui-ui and Lahontan cutthroat trout in Pyramid Lake.

This change provides flexibility to reduce excessive diversions from the Truckee River. The BOR is expected to use this proposed provision only in years when Carson River runoff is forecast to be above average and is intended to fine tune diversions and avoid over-diversions from the Truckee River. Such storage in Stampede Reservoir or other Truckee River Reservoirs is not intended to make up for shortages in drier years.

There is little advantage to foregoing diversions in below average runoff years if the likelihood is that all the credit stored water would need to be diverted to the Project in any event. The changes in Section 418.20 (f) of the rule include provisions for BOR to consult with

TCID, the Federal Water Master, FWS, Bureau of Indian Affairs (BIA), and the Pyramid Lake Paiute Tribe before any credit storing is initiated.

4. Expanded Forecasting (section 418.20 (a)): In calculating the January to June monthly diversions from the Truckee River, the 1988 OCAP uses the monthly forecast for April through July runoff published by the Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service). Rather than continuing to rely on that forecast alone, the proposed Adjusted OCAP provided flexibility to examine other forecasts and allow the use of a deliberative process to determine how to manage Truckee River diversions. This provision remains unchanged in this final Adjusted OCAP. The intent of this change is to allow the BOR to take advantage of other forecasts and the experience and knowledge of the Federal Water Master, the TCID water master, and other parties. The desired effect of this change is to improve precision in forecasting and managing the Truckee River diversion to the Project to avoid spills and shortages.

5. Additional Revisions: In addition to the changes identified in 1. through 4. above, a number of minor revisions have been made to the 1988 OCAP. Most changes are editorial and do not affect the meaning of the text. Some changes provide opportunities for consultation with interested and affected parties before BOR makes a decision.

A few changes add language to clarify or interpret the meaning of the 1988 OCAP in light of experience administering the OCAP, passage of time, or new statutory provisions. Changes to the text of the 1988 OCAP occur at:

Section 418.2: Other Project purposes are added in accordance with Pub. L. 101–618, 104 Stat. 3289, § 209 (a) (1).

Section 418.13 (a) (3): Explains the use of efficiencies in calculating the MAD.

Section 418.18 (b): Calculates terminal flow in the Truckee Canal by averaging flows during the time when water is not being diverted to Lahontan Reservoir.

Section 418.24: Water captured in Project facilities from a spill or precautionary drawdown is used to make deliveries to eligible lands but does not count as a Project diversion or as Lahontan Reservoir storage.

Section 418.29: Deletes the reference to the February 14, 1984, Contract for Operation and Maintenance between the United States and the District.

Section 418.37 (d): Adds new text clarifying that a natural drought greater than or equal to the debit will eliminate the debit.

Section 418.38 (b): Allows TCID to divert up to the MAD if needed to meet headgate entitlements.

Rulemaking Process

The DOI announced in 1995 that it intended to revise the 1988 OCAP through adjustments to that OCAP. In the summer of 1995 the TCCO held four public workshops in Fernley, Nevada to invite affected and interested parties to offer their thoughts on changes to the 1988 OCAP affecting storage targets, conveyance efficiency, storage in lieu of diversions, and the use of runoff forecast data.

The Notice of Proposed Rulemaking on the Adjusted OCAP was published December 9, 1996, with the 60-day comment period scheduled to close on February 7, 1997. As a result of being preoccupied with the worst floods in decades on both the Carson and Truckee Rivers in January 1997, the DOI received many requests for an extension of the comment period. By notice in the **Federal Register** on February 18, 1997, the comment period was extended an additional 60 days until April 8, 1997. The Notice extending the comment period also included frequently asked questions and answers regarding the Adjusted OCAP, and made known the availability of general and detailed modeling results related to the rulemaking.

During the initial comment period, the TCCO conducted an information briefing for the State of Nevada, TCID, Fallon Tribe, and Pyramid Lake Tribe. Two public workshops to explain and answer questions about the proposed rule were held in Fallon and Fernley, Nevada. The TCCO received 47 written comments on the proposed rule. Comments addressed the proposed rule and are responded to in this preamble. Many comments addressed the draft environmental assessment (EA), which had been made available for review, and have been responded to with changes in the EA. Two commenters submitted pleadings in litigation on the 1988 OCAP which were not addressed in this final rule because they were already addressed in the United States' responsive pleadings in that case.

Changes Made in This Final Rule

In response to comments and additional information, the DOI has made several changes in this final Adjusted OCAP rule. The proposed change in Lahontan Reservoir storage targets received more comments than any other issue in the proposed rule. This final Adjusted OCAP addresses two storage target issues raised in comments: future increases or decreases in Project water demand, and effects of lower storage targets on recreation. In this final rule, a system of demand responsive storage targets is implemented to provide a stable water supply to the Project over a range of water demands that may result from changes in irrigated acres, use of entitlements, or other circumstances. In addition, summer storage targets have been increased to help maintain recreation levels at Lahontan Reservoir, without substantial effect on Pyramid Lake inflow or threatened and endangered fish recovery. This also provides a slight benefit to Project water supply. These changes are described in sections II.1. and II.7. of the *Response to Comments* in this preamble and sections 418.20, 418.21, and 418.22 of the rule.

The Adjusted OCAP proposal to extend the period for storage of Truckee River water in lieu of diversions back to January each year has been changed in the final rule by extending it back to include November and December. November and December targets increase significantly to take advantage of winter flows in the Truckee River when the water will clearly be needed in the Project. Adding storage in lieu of diversions in November and December will help avoid a repeat of the situation that developed in late 1996 and early 1997 when all reservoir storage levels were up yet diversions from the Truckee River to the Project continued through the end of December, only to begin spilling as a precautionary release from Lahontan Reservoir on January 1, 1997. The final rule also allows Newlands credit water spilled from Truckee River reservoirs to be diverted to Lahontan Reservoir subject to applicable storage targets. These changes are described in sections II.5 of the *Response to Comments* in this preamble and section 418.20(f) of the rule.

The proposed Adjusted OCAP lowered the Project conveyance efficiency target based on increases in the percent use of entitlements and decreases in the Project size. The intent was for the conveyance efficiency target to be dynamic and continue to vary with the use of entitlements and the Project size. However, Figure 1, the graph in Appendix A at the end of the proposed rule, showed target efficiencies varying only in proportion to percent use of entitlement. This has been replaced in the rule at section 418.13(a)(4) and by the table Expected Project Distribution System Efficiency that shows required efficiency for a range of irrigated acreage and a range of percent use of entitlement. The table also provides the

slope and y-intercept so that a new graph may be prepared. Appendix A in this final rule has a table Calculation of Efficiency Equation which shows how the Expected Project Distribution System Efficiency is calculated using a range of percent use of entitlement from 100 percent to 75 percent.

The proposed Adjusted OCAP made several corrective adjustments to the 1988 OCAP to have the Adjusted OCAP reflect actual Project operations. One of these affected how water released into Rock Dam Ditch was counted. Rock Dam Ditch may receive water directly from releases at Lahontan Reservoir, or may get water directly from the Truckee Canal via a siphon pipe under the stilling basin below Lahontan Dam. In the proposed Adjusted OCAP rule, diversions directly from the Truckee Canal would have counted against the Truckee Division. As was noted in comments, this is incorrect, as the water that reaches Rock Dam Ditch would, in all cases, come from water in Lahontan Reservoir or destined to arrive in Lahontan Reservoir. This change is noted at section III.1 of the preamble and in the rule at section 418.23.

Modeling used to compare various OCAP scenarios and storage target regimes has been updated since the proposed rule was published. The new modeling retains the Project acreage and water use assumptions from the proposed rule but is modeled over the 95-year period 1901–1995, it also includes the additional hydrology for 1995, and does not include storage in Lahontan Reservoir on the flash boards above 295,500 acre-feet.

Based on technical comments from the BOR, which will administer this rule, the language in section 418.13(a) has been revised to clarify the timing and procedures for recalculating the Project water budget, the MAD, and the required conveyance efficiency. At the start of the irrigation season, a provisional water budget and MAD will be recalculated. After the irrigation season when actual irrigated acres and percent use of headgate entitlement is known, a final target conveyance efficiency will be determined from the table Expected Project Distribution System Efficiency.

This final rule has been revised to conform to numbering and plain language requirements for publication of the Adjusted OCAP rule in the Code of Federal Regulations. Some extraneous introductory text has been removed or incorporated into the preamble. Throughout the text of the rule, ''must'' or other appropriate wording replaces ''shall'' and references to ''these OCAP'' has been replaced by ''this part.'' Additional text has been changed only to clarify the meaning. The new format includes a section on definitions and has moved a few sections forward as General Provisions of Adjusted OCAP. Also, the rule has been divided into more sections, each dealing more discretely with each subject. With these exceptions, the text of this rule appears in the same order as in the Notice of Proposed Rulemaking and can be easily compared.

Need for Immediate Effect

This adjusted OCAP rule is effective December 16, 1997, to allow its provisions to address imminent diversions of water from the Truckee River to Lahontan Reservoir. Under the Administrative Procedure Act, sec. 553(d)(3), a rule may have immediate effect when the agency finds that there is good cause for waiving the normal 30-day period between publication of the rule and its effective date. This waiver of the normal 30-day waiting period for this rule to become effective is critical for the Secretary to meet all obligations in the Truckee River basin. A 30-day delay in implementation will compromise the effectiveness of the Adjusted OCAP by allowing unnecessary diversions of more than 14,000 acre-feet of water from the Truckee River.

Delayed implementation of the rule would be contrary to the public interest. The Adjusted OCAP more accurately limits Truckee River diversions to only that amount of water that the water users in the Project require. In the past three years, the 1988 OCAP storage targets have allowed Truckee River diversions of about 80,000 acre-feet, 6,000 acre-feet, and 22,000 acre-feet of water that was not needed to satisfy diversionary rights and which ultimately was spilled during required precautionary drawdowns of Lahontan Reservoir increasing the danger of flooding in the Carson River valley.

Immediate implementation will not harm those affected by the rule because there will be sufficient water available to serve water rights during the 1998 irrigation season. Lahontan Reservoir storage levels in November resulted in diversions of nearly 10,400 acre-feet of Truckee River water under the existing 1988 OCAP storage targets. Projections for December 16–31, 1997, indicate that an additional 14,000 acre-feet of water might need to be diverted from the Truckee River to meet 1988 OCAP storage targets. Under the Adjusted OCAP storage targets in this rule, no water would have been diverted in November or would need to be diverted in December. Moreover, the November and December diversions are not needed to serve Project water rights. The 160,000 acre-feet already in Lahontan Reservoir, less evaporation and seepage, along with the water that would be available if needed from the Truckee River based on current water storage in Truckee River reservoirs, indicates that there will be sufficient water to meet Project requirements for the 1998 irrigation season. Therefore, immediate implementation is necessary to prevent the waste of at least 14,000 acre-feet of water that will be diverted from the Truckee River in December if the Adjusted OCAP is not in effect. If the rule were not in effect until January 16, 1998, additional water would be diverted that will not be needed.

In addition, immediate implementation will benefit Pyramid Lake by maintaining needed Truckee River flows with no attendant harm to Project water users, because the Adjusted OCAP does not affect decreed water rights. Conversely, diversions at Derby Dam in December pursuant to the existing 1988 OCAP storage targets would significantly decrease Truckee River flows to the detriment of Lahontan Cutthroat Trout, which is a threatened species under the Endangered Species Act.

A 30-day delay in implementation would result in an irretrievable commitment of at least 14,000 acre-feet of water from the Truckee River to Lahontan Reservoir. Immediate implementation of the Adjusted OCAP will allow better management of the Project, and will avoid potential threats to public health and safety due to the increased risk under the 1988 OCAP of flooding those downstream of Lahontan Reservoir.

The main reason for a 30-day waiting period prior to implementation is to provide affected parties with an opportunity to adjust their actions. The need for this is obviated by the fact that the Adjusted OCAP are an outgrowth of the 1988 OCAP. They are designed to fine tune the 1988 OCAP, not to replace them with an entirely new regulatory scheme. The revisions fall within the basic framework of the 1988 OCAP, a regulatory system that the affected parties have been operating under for nine years. Further, the Adjusted OCAP have been in circulation for many months, and all affected entities have had ample opportunity to participate in workshops on the proposed rule and to comment.

The affected parties have participated in the development of the Adjusted OCAP and are aware of the content of the rule as well as the approximate time it would be implemented. In spring

1997, the DOI extended the period for comment on the proposed rule for 60 days to accomodate interested parties who had been preoccupied by flooding during the original comment period. This 60-day delay should not be allowed to compromise the rationale underlying the Adjusted OCAP's development. The potential for harm to the public outweighs any possible prejudice to the affected parties. Therefore, the Department finds that there is good cause for the Adjusted OCAP to be effective on December 16, 1997.

Response to Comments on Proposed Rule

The proposed rulemaking provided a 60-day public comment period which was later extended another 60 days to end on April 8, 1997. The Truckee-Carson Coordination Office (TCCO) received 46 letters from commenters during the comment period. One additional commenter submitted late comments that TCCO received on April 9, 1997, and accepted for review, for a total of 47 comments. Fifteen comments were from an irrigation district, twelve from interested parties, seven from local governments, six from organizations or public interest groups, three from Nevada State agencies, two from Tribes, one from a public utility, and one from a Federal agency.

We reviewed and analyzed all comments, and in some instances revised the final rule based on these comments. The following is a discussion of the comments received and our response. First, we addressed general comments and concerns. Second, we responded to specific comments referred to by regulation section.

I. General Concerns

1. Why Propose These Changes? Some commenters asked what the purpose and need was for making adjustments to the 1988 OCAP. One commenter asked when the continued encroachment on water rights by successive OCAP's will end. Other commenters said that the proposed Adjusted OCAP rule does not meet the goals stated in the 1988 OCAP regarding service of water entitlements, conservation of wetlands and wildlife, Trust obligations to the Fallon Paiute-Shoshone Tribes (FPST), stable economies, and stability of operations. Other commenters argued that the diversion and subsequent spill of more than 100,000 acre-feet of Truckee River water in the past three seasons points to the need to adjust the 1988 OCAP to avoid a recurrence of such diversions and spills. Finally, one commenter suggested that instead of having an OCAP, that a discussion process be used to determine the need for fall or winter diversions from the Truckee River.

Response: As explained in the preamble to the proposed Adjusted OCAP rule published in December 1996, the primary purpose of this rule is to adjust the OCAP to reflect the fact that demand for water to meet Newlands Project water rights is less than projected at the time the 1988 OCAP were adopted and the OCAP can be adjusted to better reflect new water demand assumptions which will increase Newlands Project reliance on the Carson River as the primary source of water for the Carson Division. Other adjustments are made to provide flexibility in operations to help conserve water based on experience gained in the past nine years. The changes in this rule are designed to reduce diversions from the Truckee River in such a way that approximately 87 percent of the reduction comes from reduced Truckee Canal loss, reduced reservoir loss, and reduced spills. For the reasons explained above under the heading, ''Adjusted OCAP Proposed Changes,'' demand for water to serve water rights has been less than anticipated in the 1988 decision which means that more water is being diverted from the Truckee River under the 1988 OCAP than is necessary to serve Newlands Project water rights. This is inconsistent with the Secretary's trust responsibility as spelled out in the Gesell decision in *Tribe* v. *Morton* to ensure that only the water needed to serve Project water rights is diverted from the Truckee River and away from Pyramid Lake. As such, this is not an encroachment on Newlands Project water rights, but a limited refinement of diversion criteria to assure that Project water rights are met but with maximum reliance on the Carson River.

This final OCAP rule is consistent with the 1988 OCAP goals. Water entitlements in the Newlands Project are served subject to such regulations or requirements as the Secretary may impose. This final rule is the Secretary's OCAP regulation for the Project, provides for the full service of water rights so long as the water is available, meets the OCAP goal of satisfying entitlements, and therefore, fulfills the *Alpine* and *Orr Ditch* decrees. The Adjusted OCAP is not expected to interfere with efforts to restore Lahontan Valley wetlands and wildlife resources because the proposed Adjusted OCAP was considered in the decision making process for the FWS Water Rights Acquisition Program (WRAP) EIS and it is being considered as the FWS develops its comprehensive management plan for Stillwater National Wildlife Refuge. The DOI is negotiating an agreement with the FPST on a number of issues including maintaining the Tribe's irrigation water supply. This agreement with the FPST is expected to help ensure that the DOI will meet its trust responsibilities to the Tribe under the Adjusted OCAP.

The Adjusted OCAP decreases slightly— from 98.41 percent to 97.48 percent—the average water supply in the Carson Division of the Project and would have an effect on farm production, profits, and income in drought years (see response to I–12). However, the modeled average water supply under Adjusted OCAP is similar to the modeled supply in the 1988 OCAP EIS assumptions under current conditions (1988 OCAP in Table A), therefore the economic stability of the Project is not expected to change compared to 1988 OCAP projected conditions. Finally, the Adjusted OCAP rule does not impose new operational requirements and is, therefore, consistent with the goal of stability in operations.

This Adjusted OCAP addresses the comment regarding the need to manage early season diversions of Truckee River water to Lahontan Reservoir to avoid subsequent spills. We believe the proposed storage target regime in the rule will minimize, but cannot eliminate, the possibility of Truckee River diversions being spilled later. We believe, further, that we cannot legally abandon OCAP in favor of a discussion process as the basis for controlling Truckee River diversions.

2. Why Change the OCAP Now? A number of commenters questioned why the DOI is changing the OCAP at this time. They cite the December 31, 1997, expiration of the prohibition on litigation on the 1988 OCAP in Section 209 of the Truckee-Carson-Pyramid Lake Water Rights Settlement Act (Pub. L. 101–618), the absence of any court order for a new OCAP, and question why the DOI was moving ''swiftly'' on Adjusted OCAP in light of numerous concerns. Some commenters questioned the timing and need for the Adjusted OCAP in light of the DOI's announced plans to develop a revised, long-term OCAP. Other commenters asked to have the Adjusted OCAP rule in effect by October 1, 1997, to avoid potentially unnecessary diversions from the Truckee River.

Response: Section 209 of Pub. L. 101–618 allows the Secretary to decide, in his sole discretion, that changes to the OCAP are necessary to comply with his obligations. No court order is needed to

make these changes. The experience of initially seven and now nine years implementing the 1988 OCAP indicates that a number of changes could be made to save additional diversions of Truckee River water within the framework of the 1988 OCAP. The timing of this rulemaking relative to December 31, 1997, is coincidental since the rulemaking started in 1995. The DOI announced its intent to develop an interim or Adjusted OCAP in March 1995, held public planning workshops on Adjusted OCAP in August 1995, published a proposed rule in December 1996, held public workshops on the proposed rule in December 1996 and January 1997, and extended the comment period by 60 days in February 1997. We believe this history reflects the ample opportunities for public input and the deliberative pace of rulemaking to allow due consideration of issues.

The DOI's intention to develop a revised OCAP was also announced in March 1995. Unlike the Adjusted OCAP which makes some changes in the 1988 OCAP as an interim correction, the revised OCAP contemplates more fundamental changes to OCAP, will take a number of years to develop, and will be the subject of an EIS that also considers other related water management issues. The fact that the DOI conducted EIS scoping meetings for this EIS during the comment period on the Adjusted OCAP is more a reflection on the lengthy EIS process than on the DOI's intent to rush into the next OCAP before this rulemaking is concluded.

As to when the rule will go into effect, it had been the DOI's hope to have the Adjusted OCAP in effect prior to when Truckee River diversions might have begun under the current OCAP storage targets.

3. What is the legal authority for changing OCAP and for making OCAP a regulation? A number of commenters questioned the DOI's authority and the legal basis to make changes to the 1988 OCAP and to do so via rulemaking. One commenter made the point that this rulemaking will ''grandfather'' the 1988 OCAP which never was published in the **Federal Register**, never underwent notice and comment rulemaking, and which has not undergone judicial review. Another commenter asked if the Secretary had the approval of the Pyramid Lake Paiute Tribe (PLPT) to change OCAP.

Response: The Secretary of the Interior is authorized to promulgate regulations for the operation of irrigation projects under the Reclamation Act of 1902, as amended. Promulgation of the Adjusted OCAP rules replaces the existing 1967 OCAP regulations and a number of court approved OCAPs. Promulgation of Adjusted OCAP affords the public a formal opportunity to participate and have their concerns considered in the rulemaking process.

The Adjusted OCAP is based on the 1988 OCAP framework with changes in efficiency requirements, storage targets, upstream storage, and forecasting. It is correct that the 1988 OCAP was not published in the **Federal Register**, was not included in the Code of Federal Regulations, and has not gone completely through judicial review. However, Congress, through Pub. L. 101–618, directed the 1988 OCAP to remain in effect until changed by the Secretary, at his sole discretion, and to be barred from judicial review until December 31, 1997. The public law also declared valid all actions taken by the Secretary under any OCAP prior to that law, including implementation of the 1988 OCAP, and not subject to judicial review.

Newlands Project OCAP may be implemented through approval by the *Tribe* versus *Morton* court, or with the approval of the PLPT. The DOI believes it has received the approval of the PLPT through the Tribe's comments on the proposed Adjusted OCAP rule.

4. Adjusted OCAP Violates Water Rights under the Alpine and Orr Ditch Decrees: A number of commenters contend that the Adjusted OCAP reduces the water supply to the Newlands Project, and that any reduction in water supply affects water rights in violation of Nevada water law. These commenters also view this as a violation of water rights adjudicated under the *Orr Ditch* and *Alpine* decrees. Several commenters cite the court's decision in *Tribe* v. *Morton* which said that OCAPs should not alter the *Orr Ditch* or *Alpine* decrees.

Response: Under Nevada water law, water rights holders are entitled to a certain water duty per acre which represents the maximum amount of irrigation water that can be beneficially used on water righted lands. This water duty is neither a minimum amount of the entitlement that must be received, nor is it a guarantee that that amount of water will always be available. As the Carson and Truckee Rivers' runoff varies from year to year, so too does the water supply, resulting in full years serving up to the water duty, and in drought years where the available water supply serves less than the water duty.

As shown in Table A, line 19, under final Adjusted OCAP there is an additional shortage year compared to the current condition. The additional shortage year results from reduced carry over storage of Truckee River water in Lahontan Reservoir. Under Judge Gesell's decision in *Tribe* v. *Morton*, the Truckee River water left in Lahontan Reservoir at the end of the irrigation season is water that was not needed to serve water rights, and the Project is not entitled to this water.

Nothing in the Adjusted OCAP changes anyone's water right or affects the *Orr Ditch* or *Alpine* decrees. What OCAP does is determine under what conditions Truckee River water may be diverted to Lahontan Reservoir to supplement the water supply from the Carson River for purposes of serving such rights that year. That combined supply in Lahontan Reservoir is the water supply available to meet the water demand in the Carson Division in a given year. Our modeling analysis of the Adjusted OCAP, which considers the hydrologic record for the Carson and Truckee Rivers from 1901 to 1995, indicates that in more than 9 out of 10 years Lahontan Reservoir has enough water to fully satisfy the Carson Division demand, with an average water supply of more than 97 percent of demand. This combined use of Carson and Truckee River ensures a more secure and consistent water supply for the Carson Division than most other *Alpine* decree water rights holders experience on the Carson River.

5. The Adjusted OCAP Affects Property Rights: Commenters have expressed concern that Adjusted OCAP may cause shortages that are a taking of property rights. A State Agency believes that any action by the Federal government that results in water rights holders not receiving their legal entitlement of water is a taking of personal property. Also, because the State Agency is a holder of water rights in the Newlands Project, it says that Adjusted OCAP may devalue its water right holdings when they receive less water than is available in the system. Other commenters say this is stealing water or a taking without just compensation.

Response: Newlands Project irrigators do indeed have a property right in their water rights, as do other water rights holders in Nevada. However, as pointed out in the response to issue number 4, the Adjusted OCAP has no effect on water rights or on the *Alpine* and *Orr Ditch* decrees. In addition, these water rights are not an entitlement to a certain amount of water every year, but rather an entitlement to receive up to a certain amount of water, when that water is available. In drought years, water may not be available to serve all entitlements. Thus, the water that reaches and is retained in Lahontan

Reservoir constitutes the available water for Newlands Project irrigators in the Carson Division. Further, these water rights are subject to applicable laws, rules, and judicial decrees. The supply of water in Lahontan Reservoir, out of which Carson Division water rights are served, is subject at least to the segmentation and priority provisions of the *Alpine* decree for the Carson River, and to the Floriston flow rate and priority provisions of the *Orr Ditch* decree for the Truckee River. Under Pub. L. 101–618 and *Tribe* v. *Morton*, OCAP may not affect the decrees; it merely provides that the deliveries be limited to those actually needed to serve water rights. As such, this is not a taking of a constitutionally protected property right by the Adjusted OCAP.

6. The Adjusted OCAP Denies Carry Over Storage Rights: Carry over storage refers to the ability to store in a reservoir water that is not needed in one year for use in the next year, if needed. Five commenters believe the Adjusted OCAP, as well as the 1988 OCAP currently in place, take away carry over rights in Lahontan Reservoir by limiting the diversion of Truckee River water. They contend the diminution of carry over storage under Adjusted OCAP erodes the principle of storing in times of plenty for times of drought. Further, one commenter contends that carry over storage is a right that was given to irrigators when they traded their pre-Project vested water rights to the Federal government for water rights in Lahontan Reservoir. In contrast, one commenter felt that the proposed end-of-month storage target for October of 52,000 acre-feet was too high because it could allow carry over of Truckee River water diverted right at the end of the irrigation season.

The Adjusted OCAP provides for storage of Truckee River water in Stampede Reservoir in lieu of diversions to Lahontan. One commenter asked why the Adjusted OCAP would not allow carry over storage of Newlands Project water in Stampede Reservoir.

Response: All water remaining in Lahontan Reservoir at the end of the irrigation season does carry over to the next year and this is not changed by the Adjusted OCAP. The Project water users benefit from carry over storage of all the Carson River water that remains in Lahontan Reservoir and provides protection against future droughts. However, to the extent that any portion of the water remaining in Lahontan Reservoir is water that had been diverted from the Truckee River, such water is, by definition, water that was not needed to serve Project water rights. It is the presence of this Truckee River water in Lahontan Reservoir at the end of the irrigation season that Adjusted OCAP seeks to minimize because it conflicts with the court's basic requirement of OCAP: that the Newlands Project receive only the Truckee River water needed to serve water rights so that the Secretary's trust responsibility to the PLPT may be fulfilled. Likewise, for Newlands Project water stored in Truckee River reservoirs, any water left over at the end of the season is water that was not needed to serve Project water rights and, therefore, should go to Pyramid Lake.

The goal of OCAP is to divert just that amount of Truckee River water needed to serve water rights in the Project and to let the rest continue to Pyramid Lake. The ideal OCAP would be based on demand and only allow diversions of Truckee River water to Lahontan Reservoir when it was actually needed for the Carson Division, and then, in quantities sufficient to always meet the water demand. This would ensure serving all water rights all the time with no over-diversions of water and no Truckee River water spilled from Lahontan Reservoir. Unfortunately, our analysis indicates that such a ''demand only'' OCAP would not serve water rights because of the variability in the amount of water available for diversion from the Truckee River from month to month, and because of the capacity limits of the Truckee Canal.

Instead of a demand-only OCAP, the Adjusted OCAP rule continues to allow diversions of Truckee River water to Lahontan Reservoir, even at times when the water is not immediately needed to serve water rights at the time of diversion, as a safeguard for a water supply later in the year against the unpredictability of the runoff from the Carson River. This is why the Adjusted OCAP includes a storage target greater than zero for October. The modeling analysis of the Adjusted OCAP indicates that it provides a water supply for the Newlands Project consistent with the water supply evaluated in the 1988 OCAP, even though the supply is less than under current (i.e., 1997) conditions.

7. There was Inadequate Information Provided to Evaluate the Proposed Rule: Eight commenters raised questions and concerns about the amount of information made available by the DOI in support of the Notice of Proposed Rulemaking. These concerns centered on modeling evaluations of the proposed Adjusted OCAP and alternative OCAP scenarios that had been considered. Some commenters believe that due process is being ''trampled'' or that modeling results were skewed because all of the information in the government's possession was not made public. Others questioned how the proposed rule could be evaluated without foundational data and assumptions. Yet another commenter chided DOI for manipulating data to achieve a predetermined result. Specific questions were posed regarding the need for a modeling scenario that allowed Lahontan Reservoir to fill without storage target limits and another modeling scenario for current conditions.

Response: In developing the Adjusted OCAP rulemaking, the DOI evaluated five OCAP alternatives based on different storage target regimes. These were modeled and compared with modeled scenarios for current conditions and for the 1988 OCAP with 1988 time frame assumptions and 1994 time frame assumptions. In all, nine modeling runs were examined. The printout from each modeling run is approximately 400 pages long. To facilitate comparisons of the modeling runs a single summary table labeled Table 9 was prepared listing 9 input assumptions and 53 key output parameters for each run. The DOI did not model a ''full reservoir'' scenario because it would not be consistent with the decision in *Tribe* v. *Morton* and would serve no practical purpose.

In response to requests for information on modeling runs considered by the DOI, Table 9 was made available to all parties. In response to requests for more detailed information, we also provided copies of the full 400-page proposed rule modeling run and a 36-page document of 94 years of modeled monthly output for 29 parameters. Table 9 was made available at three public workshops on the proposed rule and the availability of the remaining materials was announced in a **Federal Register** notice dated February 18, 1997, extending the comment period on the proposed rule by 60 days. The DOI believes that the modeling information provided was specific to the proposed rule and sufficient, when used in conjunction with the Notice of Proposed Rulemaking, to allow the public to evaluate and comment on the proposed rule.

8. OCAP Modeling: Many questions and comments were received regarding the Truckee River operations model used in developing the Adjusted OCAP. Commenters noted concerns both with the model itself and with DOI's use of the modeled data. One commenter noted that DOI is relying on a long string of assumptions in using the

model, and that the model cannot be used to determine the water supply for decreed rights. Another believes the operations model to be a product of collusion between the United States, the Pyramid Lake Paiute Tribe of Indians, and Sierra Pacific Power Company.

Several commenters wanted to know if and how the operations model had been calibrated or verified. There were also questions about the reliability of the model's estimates of parameters like seepage and evaporation, sensitivity to various parameters, and about the uncertainty these parameters create in the modeled output. One commenter asked if the model was available for review.

Another series of comments questioned why ''real data'' were not used and the model generates certain input data for missing stream gauges or extrapolates reservoir operations for time periods when the reservoirs were not in existence. Commenters also questioned why the model examines a 94 year time period instead of the last 30 years, especially when early stream gauges were not accurate.

Commenters also addressed the modeling results. Several noted that the modeled results do not match what actually occurred in some years and asked if DOI would monitor the actual Project hydrology, and if DOI would change the OCAP if it did not match what actually happens. Modeling was also thought by some to underestimate or to cover the actual effects of shortages that result from not achieving high efficiency requirements. One commenter suggested that the model does not show the economic effect of lower Lahontan Reservoir storage on hydropower generation, and does not account for the effect of upstream storage in lieu of diversions to the Project. Some recommended identifying shortages, or using the first year of a drought instead of listing average shortages because averages do not show the one in ten year event.

Response: The Truckee River operations model, a monthly river and reservoir operations accounting model, was developed by the BOR and has been added to and upgraded by contractors and BOR staff. The model is in the public domain and has been used as an analytical tool in a number of negotiations in western Nevada and has been accepted by parties to these negotiations as the best modeling program available for evaluating various Truckee River and Newlands Project operating scenarios. Over the years, various versions of the model have been made available to many organizations to use independently, including Sierra Pacific Power Company, the Pyramid Lake Paiute Tribe, TCID, and the States of Nevada and California.

Critics of the model point out that it does not use ''real'' data and its results do not replicate the historic record. The reason is that the model uses historic hydrology of the Truckee and Carson Rivers starting with 1901, but has to extrapolate to fill data gaps from the early 1900's. Also, the Truckee River operations and hydrology are modified in the model to assume that all the reservoirs and operations in place today have been in place since 1901, which is not this case. This allows the model to keep a single accounting book of reservoir records rather than having a new set of accounting books added to the program when each new reservoir was built. Thus, modeled output reflects operating the rivers with today's reservoirs and physical features in place using 94 or 95 years of hydrology. Though suggestions have been made to use a shorter time period such as 30 years of hydrology, we believe the longer time period is a more robust data base.

The model has undergone reviews by a number of modeling peers and users of the model and has been evaluated for sensitivity to certain parameters. Its input parameters for terms like seepage and evaporation are based on field tests and observations. Because the model has been widely accepted for use as a comparative tool for examining different water management scenarios, it has not been calibrated for or verified against any particular year or period of record.

The model uses historic hydrology, so it cannot be used predictively, and by standardizing physical features, it cannot be used to create an accurate hindcast. However, standardizing the river and reservoir operations allows users to look prospectively at what might happen in the future if the range of hydrology of the past is representative of what might happen in the future.

By holding the physical features and hydrology constant, the DOI uses the model to examine, compare, and contrast different operations scenarios. The modeling is only used for comparative purposes and not to suggest a specific future condition will exist. Operations under the Adjusted OCAP will be monitored, but not for the purpose of comparing the day to day operations in the Project with modeled results. As one commenter noted, upstream storage in lieu of diversions to Lahontan is not accounted for in the model. Upstream storage is intended to refine the Truckee River diversion so that there is no inadvertent over diversion. Because the model does account for forecasting errors and so allows occasional over diversion, it may overestimate the water supply in years when upstream storage might be used. Also, the model does not consider the effects of lower reservoir levels on hydropower production; this is considered in the environmental assessment for the Adjusted OCAP rulemaking.

The DOI has examined and considered the severity of drought years besides looking only at average water supplies. Table B shows the modeled water supply for drought years in four modeled scenarios: 1988 OCAP assumptions with current hydrology; the Current Conditions, Proposed Adjusted OCAP, and Final Adjusted OCAP. The Project water supply under Final Adjusted OCAP is comparable to, though slightly better than, what was modeled for the 1988 OCAP with the demand assumptions for 1992, however it is less than the Current Condition water supply. In the nine driest years, Final Adjusted OCAP is better than what the Project is modeled to experience under the 1988 OCAP, but worse than Current Conditions by 27,000 acre-feet on average for those nine years. The additional shortage is the result of reduced carry over of Truckee River in Lahontan Reservoir at the start of each year under Adjusted OCAP.

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TABLE B

Carson Division Release Shortages for 1901 - 1995[1] (1000 acre-feet)				
	1988 OCAP	Current Condition	Proposed Adjusted OCAP	Final Adjusted OCAP
Demand	292.00	271.00	271.00	271.00
Year and Shortage:				
1931	79.04	44.69	81.47	80.42
1934	91.21	40.99	70.08	70.28
1961	58.23	3.68	38.05	38.05
1977	79.56	38.19	74.99	74.99
1988	72.35	33.32	66.03	66.03
1990	29.80	0.00	34.73	30.67
1991	137.77	110.84	113.66	113.66
1992	172.79	150.08	149.48	149.59
1994	37.09	5.30	46.37	46.37
95-Year Average Release Shortage	7.98	4.50	7.10	7.05
95-Year Average Water Supply (Percent)	97.27%	98.34%	97.38%	97.40%
Number of Shortage Years	9	8	9	9
Average Release Shortage in 9 Driest Years	84.2	47.5	75.0	74.5
9 Driest Years Water Supply (Percent)	71.2%	83.5%	72.3%	72.5%

1. All the footnotes from Table A apply to this Table.

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9. OCAP Development and Alternatives Selection: When it was first announced in March 1995 that the DOI would be making adjustments to the 1988 OCAP, then Assistant Secretary for Water and Science Betsy Rieke made a commitment to the TCID and Newlands Water Protective Association (NWPA) that they would be consulted about changes the DOI was considering before any decisions were made. Several commenters have argued that the government did not fulfill this commitment, while others have asked for a new proposed rule to be developed in cooperation with all parties. One commenter objected to the rulemaking process because they were not invited to a briefing on the proposed rule after the **Federal Register** notice was published. Another commenter asked if the State of Nevada had been informed about the proposed rule. One commenter viewed the proposed rulemaking as a ''take it or leave it'' ultimatum without consideration of reasonable alternatives, and suggested that a new proposal should be developed in cooperation with other parties. Two commenters believe the attorney for the PLPT had ''inside knowledge'' of the proposed rule and that TCID and NWPA were excluded from participation while the PLPT and DOI developed the rule. Another cited DOI's alleged fiduciary responsibility to water right owners that the DOI must fulfill. Yet another commenter supported the proposed rule but thought that DOI should have selected an alternative that provided more benefits to Pyramid Lake. A State agency recommended delaying the rule for more complete environmental and economic evaluations and to await completion of negotiations between TCID and PLPT. Commenters also suggested that the DOI take notice of the draft *Truckee-Carson River Basin Study for the Western Water Policy Review Advisory Commission.*

Response: The rulemaking was conducted in accordance with Administrative Procedure Act requirements, which included notice published in the **Federal Register** and an opportunity for comment by all interested parties, as detailed in the Rulemaking Process section of the preamble. In addition, certain parties were advised early in 1995 that before a decision was made, they would have an opportunity to review changes DOI was considering making to the 1988 OCAP. The DOI honored this by meeting with TCID, NWPA, PLPT, FPST, the State of Nevada, and other parties to brief them on the content of the proposed rule after it was published in the **Federal Register**. For interested parties that did not attend this briefing, the same presentation was made later at two public workshops on the proposed rule.

The view that the Adjusted OCAP is a ''take it or leave it'' proposal without considering alternatives presumes that the proposed rule was a negotiating position. It was not. The DOI has been unsuccessful in several multiparty efforts to negotiate an OCAP settlement for the Newlands Project. The most recent effort, outside of current ''out of court'' discussions to settle pending litigation, was a facilitated negotiation that ended in March 1995, after which the DOI announced its intention to proceed with changes to the 1988 OCAP. In developing the Adjusted OCAP rule, the DOI has examined a wide range of alternatives, including those that were presented during the facilitated negotiations. The DOI held four well-attended public workshops in August and September 1995 to discuss possible changes to the 1988 OCAP and afford the public early input to developing the Adjusted OCAP. With the exception of these public workshops, no outside parties participated in DOI's development of the Notice of Proposed Rulemaking. As well, to our knowledge, no outside party has participated or been privy to development of this Notice of Final Rulemaking.

The DOI has reviewed and takes notice of the draft Western Water Policy Review Advisory Commission report.

The DOI selection of Alternative D for the proposed Adjusted OCAP and as the basis for the final Adjusted OCAP is primarily based on the mix of water savings and water supply impacts this alternative provides. The obligation owed to the water rights holders in the Newlands Project is a contractual obligation, not a fiduciary obligation. In evaluating OCAP alternatives, the DOI must seek to satisfy its contractual obligation to serve water rights, and to meet its Trust responsibility to the PLPT. Also, the DOI has completed both environmental and economic analyses in promulgating this rule.

10. Relationship of OCAP to the Truckee River Operating Agreement: Three commenters raise concerns regarding ongoing Truckee River Operating Agreement (TROA) negotiations which address, in part, storage in Truckee River reservoirs. Their concerns fall into three areas. First, that absent the TROA, the DOI has no authority to implement the upstream storage provisions necessary for storage in lieu of diversions, and therefore the Adjusted OCAP cannot precede TROA. Second, that until the TROA is completed there is no way for the DOI to evaluate opportunities for storage in lieu of diversions or assess what impact TROA may have on Truckee River flows available to the Project. Third, that the relationship of OCAP storage to other storage under TROA is not clear, and OCAP storage cannot adversely affect existing storage agreements.

Response: The Adjusted OCAP rule does not establish credit storage in lieu of diversions; that was established in the 1988 OCAP already in effect. This Adjusted OCAP rule extends the time period during which water may be credit stored, from April–June, to November–June, and it clarifies the procedures for storage in lieu of diversions. Therefore, the TROA negotiations need to address OCAP storage regardless of whether the 1988 OCAP is replaced by Adjusted OCAP or not. Also, the United States already has the authority to capture this water in Stampede Reservoir or to credit store the water out of fish water in Stampede by exchange and does not need TROA to be in place.

Modeling for the Adjusted OCAP does not assume that the TROA is in effect and therefore does not assess whether the TROA would have any impact on the Newlands Project. However, Pub. L. 101–618 mandates that the TROA must not adversely affect water rights. Preliminary modeling results for the draft TROA EIS indicate that flows in the Truckee River are affected by increased water use over time in the Truckee Meadows, and by effluent reuse programs associated with the Water Quality Settlement Agreement.

The effect of OCAP storage is unclear, but the DOI has agreed preliminarily that it will not credit store water in lieu of diversions if such credit storage would adversely impact the storage, retention, or use of other categories of credit water under TROA. The text of the Adjusted OCAP in section 418.3(e)(8) has been modified to ensure that OCAP storage does not interfere with other storage in Truckee River reservoirs. It should be noted that TROA is the subject of continuing negotiations among many parties and that its timing and configuration are not yet known.

11. Compliance with National Environmental Policy Act (NEPA): The DOI received many comments on the draft EA that accompanied publication of the proposed Adjusted OCAP rule. Those comments, including recommendations for mitigation of environmental effects, are addressed in the final EA.

Eight commenters questioned the DOI's preliminary determination that

the Adjusted OCAP is not a significant Federal action requiring preparation of an EIS, citing general impacts to wildlife, wetlands, ground water, and socio-economic effects. One commenter suggested that because the Adjusted OCAP violated laws related to water rights, this must be considered a significant impact under NEPA. Several commenters cited the need for a programmatic EIS to be prepared on the Adjusted OCAP and all other actions under Pub. L. 101–618.

Response: All comments received regarding environmental effects have been considered and addressed in the EA. While the EA does discuss possible effects on wildlife, wetlands, ground water, and socio-economic impacts, none of these were considered to be significant for NEPA purposes. Further, nothing in this Adjusted OCAP rule causes a violation of law. Where appropriate, mitigation measures and their environmental benefits are discussed in the EA.

A number of parties have advocated that the DOI must prepare a single, programmatic EIS on all actions under Pub. L. 101–618, including for the Adjusted OCAP. The DOI disagrees with this position. This issue was the subject of litigation brought by Churchill County and the Town of Fallon, was dismissed by the U.S. District Court for Nevada, and is currently the subject of an appeal to the United States Court of Appeals for the Ninth Circuit.

12. Compliance with Executive Orders: One commenter questioned whether this rulemaking complies with various Executive Orders that must be considered in promulgating regulations. This person believes the more than 120,000 acre-foot reduction in storage targets in Lahontan Reservoir poses an unreasonable cost on society and triggers the need for the rule to be reviewed by the Office of Management and Budget (OMB) in accordance with Executive Order (E.O.) 12866. Under E.O. 12612 on Federalism, the commenter questions whether the DOI has properly evaluated the need for Federal action and the impacts of the Adjusted OCAP on the State of Nevada's sovereignty and costs or burdens on the State. The commenter asks that DOI not adopt the Adjusted OCAP rule until it completes the requirements of E.O. 12606 on the Family, particularly with respect to impacts on family earnings. The commenter also believes the Adjusted OCAP rulemaking does not comply with E.O. 12988 on Civil Justice Reform because of the likelihood that the DOI will be sued on the rule.

Response: The cited change in Lahontan Reservoir storage targets is inaccurate and is not a basis for review of the Adjusted OCAP rulemaking by OMB. The proposed Adjusted OCAP reduced the key January to June storage target from the 1988 OCAP level of 215,000 acre-feet to 174,000 acre-feet, a reduction of 41,000 acre-feet. The reference to ''more than 120,000 acre-feet'' assumes a reduction from the reservoir capacity of 295,000 acre-feet to 174,000 acre-feet. The changes in storage targets only affect the trigger points for diversion of Truckee River water to Lahontan Reservoir. The storage targets do not impose any limit on the amount of Carson River water or the total amount of water that can be held in Lahontan Reservoir. Further, in response to comments, the DOI has revised the end-of-June storage target to 190,000 acre-feet, though retains the January–May targets at 174,000 acre-feet, subject to the adjustment procedure in section 418.22 of the rule.

The economic threshold for OMB review under E.O. 12866 is if the proposed rule is anticipated to have an economic impact of $100 million or more on a single entity or an economic sector. The economic impact of the Adjusted OCAP rule is based on average changes to the water supply and its effects on foregone production of alfalfa. These effects would only be experienced in drought years, the intensity of which would determine any actual changes in production. The average effect is calculated to be in the range of $561,000 to $283,000 per year, gross, to the agricultural sector. This estimate reflects the price of alfalfa without subtracting production costs. A 1994 study by the University of Nevada Cooperative Extension (Fact Sheet 94–22, Alfalfa Production Costs for Fallon, Nevada Area, by Wheeler and Meyer) concluded that the per acre profit for alfalfa was approximately $220 per acre which places the economic impact of the Adjusted OCAP at approximately $160,380 based on the rule having a water supply impact that might otherwise have served 729 acres. Nor does the Adjusted OCAP rule meet any of the other criteria for significance under E.O. 12866 regarding a serious conflicting action with another Federal agency, creating a budgetary impact, or raising novel legal or policy issues.

The Adjusted OCAP makes changes to four existing provisions of the 1988 OCAP. It neither creates any new requirement affecting the sovereignty of the State of Nevada, nor changes the role of the State or its rights and responsibilities with respect to regulating the Newlands Irrigation Project. The State was notified of the DOI's intent to proceed with the Adjusted OCAP rulemaking in 1995, participated in workshops on developing the proposed rule, and was consulted with before publication of the proposed rule. The DOI believes the requirements of E.O. 12612 on Federalism have been satisfied.

The DOI has examined the impact on family income as a result of the Adjusted OCAP in accordance with E.O. 12606. The economic impact of the Adjusted OCAP, which is experienced only within the Carson Division of the Project and only during the first year of a drought, translates into an estimated average economic impact on production of between $10 and $5 per acre per year, and an impact on profits of approximately $2.90 per acre per year. This cost is neither considered to have a significant impact on family budgets, nor expected to have any effect on any other family criteria under E.O. 12606. In addition, each farmer's strategy for managing a reduced water supply in a drought will affect their costs of production, which are typically $450 to $476 per acre, and gross receipts, which may mitigate or exacerbate the effects of the rule. If a farmer's net return is $220 per acre as noted, it is possible that leasing water in a drought year would generate more profit than alfalfa production in a full water year. However, none of these economic assessments includes the costs of replanting crops which might be necessary following severe droughts or leasing water. While the precise impact to each family budget is unknown, the DOI is cognizant of and has considered these overall effects in this rulemaking.

The applicable standards of E.O. 12988 on Civil Justice Reform do not set a threshold on the possibility of litigation as a consequence of the rulemaking. While we seek to avoid litigation, we recognize that all rulemaking holds the possibility of litigation by an allegedly aggrieved party. The DOI does not consider the litigious and turbulent history of Newlands Project OCAPs to be dissuasive in pursuing its responsibilities.

II Adjusted OCAP Issues

1. Project Acreage Base: The adjustments to the 1988 OCAP are based, in part, on anticipated increases in irrigated Project acreage that did not take place under that OCAP and some changes that did take place. The 1988 OCAP anticipated and was based upon the acreage in the Project increasing to 64,850 acres with an attendant headgate entitlement of 237,485 acre-feet and a total diversion demand of 346,985 acre-feet. Instead, the project acreage is

currently approximately 59,000–60,000 acres with a headgate entitlement of approximately 206,500–210,000 acre-feet and a total diversion demand of approximately 301,900–307,000 acre-feet. The current diversion demand figures for the Project are the result of a smaller acreage base than had been anticipated in the 1988 OCAP, reduced entitlements based on the so-called ''bench/bottom'' litigation (1995 Order of Judge McKibben, in *U.S.* v. *Alpine*, United States District Court for the District of Nevada No. D–185), ongoing water transfer litigation, a cap on water use by the Fallon Paiute-Shoshone Tribes, and a transfer rate of 2.99 acre-feet per acre for acquired wetland water rights as has been transferred to date instead of 3.5 or 4.5 acre-feet per acre. In response to the reduced water demand, the Adjusted OCAP changes the Lahontan Reservoir storage targets to provide a commensurate reduction in water supply from the Truckee River.

The DOI has received comments from eight parties objecting to the proposed storage targets using a 1995 acreage base of 59,075 water-righted, irrigated acres, when there are nearly 73,000 acres in the Project assessed annual charges for operations and maintenance (O&M). Commenters also disagree with BOR's determinations as to which lands are eligible for water deliveries. They contend that acreages and entitlements could change as a result of rulings favorable to irrigators in the transfer litigation and individual readjudications of the bench/bottom decision.

Response: The DOI agrees that the Project water demand may change over time. When the Notice of Proposed Rulemaking was published, the DOI assumed that changes affecting water demand might not occur for some years. It appears, now, that resolution for some proposed water rights transfers may occur sooner. Also, the 1995 actual irrigated acreage figure used in developing the Adjusted OCAP may have been depressed following several years of drought. The irrigated acreage reported for 1996 and estimated for 1997 has increased somewhat. On the other hand, additional acreage has been acquired for wetlands use at 2.99 acre-feet per acre which would tend to reduce water demand on the Project.

In response to these comments, the DOI is adopting, in effect, a sliding scale of storage targets predicated on holding the water supply available to the Project commensurate over a range of water demands. The table Adjustments to Lahontan Reservoir Storage Targets in the rule shows targets corresponding to water demands from 249,800 acre-feet to 290,200 acre-feet, and section 418.22 includes formulae for demands below and above those levels. For all levels of demand, the average annual water supply is about 97.4 percent. As an example of using the storage targets to match demand, Table C shows key modeling results for two demand levels below the Adjusted OCAP level and two above the Adjusted OCAP. In the four variations, the water supply to the individual irrigators remains at approximately the same level consistent with the proposed Adjusted OCAP water supply level.

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TABLE C

Truckee-Carson Model Results for 1901-1905 for a Carson Division Demand Range from 250,000 to 290,000 Acre-Feet					
KEY MODELING ASSUMPTIONS	Lower Demand 2	Lower Demand 1	Final Adjusted OCAP	Higher Demand 1	Higher Demand 2
Newlands Project Diversion Demand	273.0	283.0	294.0	303.0	313.0
Lahontan Reservoir End-of-June Target	150	170	190	210	229
Lahontan Average Target in July-Dec.	55.5	71.8	91.8	111.8	130.8
Lahontan Loss for LSOCM (Feb.-Jun.)	18.2	18.2	18.2	18.2	18.2
TRUCKEE CANAL					
Diversion from Truckee River	70.6	79.5	91.4	103.1	115.5
Truckee Canal Loss	14.2	15.3	16.8	18.2	19.5
LAHONTAN RESERVOIR					
Inflow from Truckee Canal	33.7	41.5	51.9	62.2	73.3
Carson River near Ft. Churchill	289.8	289.8	289.8	289.8	289.8
Reservoir Loss	34.3	34.4	35.1	36.3	37.6
Total Release and Spill	288.4	296.1	305.9	315.0	324.8
Reservoir Spill	44.9	42.9	42.0	42.3	42.4
Average End of Month Storage					
May	208.9	211.6	217.2	225.4	234.1
June	208.9	210.9	215.7	222.6	229.7
July	179.4	179.9	183.3	189.0	194.8
August	141.3	140.5	142.5	147.0	151.6
September	114.7	113.3	114.6	118.4	122.1
October	103.6	102.4	103.8	107.8	112.2
CARSON DIVISION					
Demand at Lahontan Reservoir	250.0	260.0	271.0	280.0	290.0
Lahontan Release Shortage	6.52	6.79	7.05	7.24	7.52
Water Supply (%of Demand)	97.39%	97.39%	97.40%	97.41%	97.41%
No. of Shortage Years	9	9	9	9	9
PYRAMID LAKE					
Truckee River Inflow to Lake	500.9	492.2	480.5	469.8	457.6
Ending Elevation (feet)	3,849.3	3,845.9	3,840.9	3,835.9	3,830.5
Beginning Cui-ui (1,000's of adult females)	50.0	50.0	50.0	50.0	50.0
Ending Cui-ui (1,000's of adult females)	1,735.3	1,259.7	1,051.9	572.6	311.6
Number of Cui-ui Spawning Years	77	75	75	71	69

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The BOR will determine at the end of each irrigation season what change, if any, is to be made to the monthly Lahontan Reservoir storage target for the next year, starting with the November end-of month storage target. Changes in the storage targets shall be implemented in whole increments of 1,000 acre-feet as indicated on the Table. For water demands above or below the values shown on the table Adjustments to Lahontan Reservoir Storage Targets, the two formulae associated with the table will be used to calculate the target adjustments, but will only be implemented in whole units of 1,000 acre-feet.

Carson Division water demand from the previous full water year (100 percent supply) will be the basis for changes in storage targets. Following any water year there will be a one-year lag in water demand data because verification of the irrigated acreage cannot be determined until about March for the prior irrigation season ending in October. For example, the Carson Division water demand for the 1997 irrigation season, a full water year, will not be known until March 1998. Under this rule, any further adjustments to storage targets could not go into effect before November 1998.

These flexible storage targets in Adjusted OCAP will address the concern that the DOI has selected an unreasonably low acreage or is relying on an inflexible demand base for setting Lahontan Reservoir storage targets. This provision assures the irrigators a consistent water supply as Project acreage changes.

2. Changes in Storage Targets: The Adjusted OCAP change Lahontan Reservoir storage targets to bring the water supply in Lahontan Reservoir in line with the Carson Division water demand in a manner that is consistent with the 1988 OCAP. The DOI received specific comments from nine parties, some saying that this change in storage targets will cause shortages and artificial droughts. Some comments say the reduced December and winter storage targets will cause diversions to begin later in the spring and summer when less water is available in the Truckee River. This will cause shortages that will prevent water entitlements from being satisfied or will satisfy entitlements in normal water years but leave less water in storage at the end of the irrigation season creating new droughts or worsening droughts in future years. In turn, this will reduce crop yields, and in drought years, more farmland will be fallowed, requiring larger capital investment to replant after a drought. One commenter asked if DOI only looked at elements that might reduce Truckee River diversions rather than increase them. It appears to some that the DOI is deliberately creating shortages in the Project water supply by only adjusting OCAP provisions that increase shortages, and asking the water rights owners to bear these shortages and the related economic effects. After all, one asks, isn't the goal to reduce risks of shortages? Another commenter said basing reduced diversions on trust obligations is disingenuous because the real reason is to allow growth in the Reno and Sparks area.

Another area of stated concern in comments is that the change in Lahontan Reservoir storage targets is unjustified because the percentage reduction in storage targets exceeds the percentage reduction in Project acreage. One commenter asks whether DOI is assuming a 1:1 relationship of storage targets to water demand and whether that same relationship applies to the current project acreage.

Other commenters suggest that the Adjusted OCAP storage targets are too high and the October storage target should be reduced to 4,000 acre-feet, the November and December targets reduced, and, in years of high precipitation, the October to December targets reduced. One suggests that the 4,000 acre-foot minimum pool in Lahontan should be eliminated or maintained out of water rights acquired for that purpose, otherwise it is, in effect, maintained out of the Truckee River by a higher storage target.

Response: The Adjusted OCAP do not lower storage targets for the purpose of creating water shortages in the Project. The purpose of lower targets is to reduce unnecessary diversions of water from the Truckee River. The storage targets are calibrated to meet the Secretary's trust responsibility to minimize Truckee River diversions while satisfying the Secretary's contractual obligation to provide an appropriate water supply to serve Project water rights. Also, the benefits of reduced Truckee River diversions accrue to water users downstream of Derby Dam and to Pyramid Lake. Reno and Sparks derive no benefits from Adjusted OCAP.

The 1988 OCAP established a set of Lahontan Reservoir storage targets that were expected to satisfy the existing and increasing future water demands of the Newlands Project. It was assumed that the Project would grow to 64,850 acres and be served in the Carson Division by the 215,000-acre-foot-storage-target set defined in the 1988 OCAP. Modeling indicates that the 1988 OCAP with conditions projected for 1992 would provide approximately a 97.27 percent water supply. However, the Project did not attain the size envisioned. The fortuitous consequence for the Carson Division water users has been to have the current acreage level and corresponding water demand served out of a water supply capable of serving a larger Project. Thus, the Project today enjoys an average water supply modeled at 98.34 percent, but also increased spills and other losses at the expense of the Truckee River and Pyramid Lake. The proposed Adjusted OCAP would have provided an average water supply of 97.38 percent, a reduction from current conditions by about 2,550 acre-feet on average. This Adjusted OCAP final rule, by increasing the end-of-June storage target to 190,000 acre-feet, provides a modeled average water supply of 97.40 percent, which is approximately the same supply the 1988 OCAP would have provided with expected growth.

The lower Lahontan Reservoir storage targets do reduce, as noted in comments, the available Project water supply, but still serve water right entitlements for full water years in nine out of ten years, based on the historic hydrologic record. Lower storage targets also result in less water remaining in the Reservoir at the end of each season which means that in the approximately one year in ten when there is a drought, there is less water carried over to cushion the Project from the drought, as shown in Table B. Generally, if a drought lasts for more than one year, the storage targets have no effect on the Project water supply because the target limits are never met and TCID can continue diversions of water from the Truckee River that may be available, subject to higher priority *Orr Ditch* water rights. Any additional shortage resulting from Adjusted OCAP has an economic effect, which is discussed in I.12. of this preamble.

Regarding percentage reductions in acreage and targets, there is not a one to one relationship between Project acreage and storage targets under the Adjusted OCAP or the 1988 OCAP. Storage target levels determine when TCID can divert water from the Truckee River to Lahontan Reservoir. Under the Adjusted OCAP, during January through May when Lahontan Reservoir storage is forecast to be below 174,000 acre-feet at the end of June, TCID may divert Truckee River water to Lahontan. If the water level in Lahontan Reservoir is forecast to be above the storage level of 174,000 acre-feet at the end of June, then TCID may not divert Truckee River water to Lahontan. The 174,000-acre-foot target is not a new limit on how much water Lahontan Reservoir may

hold. Lahontan Reservoir can still fill to capacity with Carson River water, as it has done, for instance, in the past three years.

The percentage change in Project acreage from a projected 64,850 acres to 59,075 acres is an 8.9 percent reduction. Acreage is directly related to water demand and OCAP's goal is to provide the appropriate water supply to meet the demand for water righted acreage in irrigation. In the Adjusted OCAP rule, storage targets are adjusted so that in most years, the Project water supply in Lahontan matches or exceeds (based primarily on Carson River inflow) the water demand at current acreage levels. The corresponding percentage reduction in average water supply from the 1988 OCAP with 1992 assumptions to the Final Adjusted OCAP (from Table A) is modeled to be about a 7 percent reduction (284,020 acre-feet and 263,950 acre-feet, respectively). Separate from the percentage reductions in acreage and water demand, the OCAP determines how to get enough water in Lahontan Reservoir to satisfy the water demand. Lahontan Reservoir receives an average annual inflow of approximately 355,000 acre-feet of which, on average, about 80 percent is Carson River inflow and 20 percent Truckee River diversions to Lahontan. Therefore, a given percentage reduction in the storage target for Truckee River diversions has a much smaller percentage effect on the total water supply in Lahontan Reservoir. For example, a 50 percent reduction in storage targets would still provide, on average, about a 90 percent supply to the Project; a 100 percent reduction in storage targets (no Truckee River water) would still leave an 80 percent water supply, on average.

On the issue of maintaining a 4,000 acre-foot minimum storage in Lahontan Reservoir, that is not a provision of OCAP, but rather appears to be an informal agreement between TCID and the Nevada Department of Conservation and Natural Resources to provide some water for fish in the Reservoir. Although Lahontan Reservoir was designed for irrigation water storage, Pub. L. 101–618 expands the authorized purposes of the Newlands Project to include recreation and fish and wildlife (Section 209 (a)), though no water rights have been transferred to the Reservoir for that purpose. The DOI supports maintenance of the recreational fishery at Lahontan Reservoir, and by modeling the Reservoir with a 4,000 acre-foot minimum level, the DOI acknowledges that this amount of water is, in effect, unavailable for use in the Project. Also, the minimum reservoir pool is beneficial to dam safety and operations because both the dam and the valves and packing in the outlet works perform best if kept wet instead of being subject to frequent wetting and drying.

3. Project Conveyance Efficiency: The Adjusted OCAP does not change the assumptions underlying the conveyance efficiency provision in the 1988 OCAP, but it does reduce the conveyance efficiency requirement based on less Project acreage than was envisioned in the 1988 OCAP. The basis for the new, lower conveyance efficiency requirement is that conveyance efficiency generally decreases as the irrigated acreage in the Project decreases because conveyance losses (seepage and evaporation) are about the same even though deliveries to headgates decrease.

Thirteen commenters questioned why DOI was continuing to rely on the efficiency assumptions in the 1988 OCAP. The comments focus on a table of 22 Potential Water Conservation Measures for the Newlands Project first published as Table 4 in the 1988 OCAP and republished in a modified form in the Adjusted OCAP proposed rule. Commenters object to using this table because the conservation measures, many of which were implemented by TCID, have not always achieved the water savings predicted in the 1988 OCAP. Some stated that continuing to cite these conservation measures perpetuates in the Adjusted OCAP the errors from the 1988 OCAP. Some feel that DOI has not recognized the efforts of TCID in trying to achieve the conveyance efficiency requirements by relying on these conservation measures. One commenter stated that DOI had used these conservation measures to justify unreasonable conveyance efficiency requirements in the 1988 OCAP, while another commenter stated that the requirements were made artificially high to run up Project debits. Another commenter stated that the conservation measures had interfered with getting irrigation deliveries at the optimum times for plants. Several commenters wanted to know what other irrigation projects the Newlands Project had been compared to in determining what level of conveyance efficiency was possible.

Five commenters raised questions about how the Adjusted OCAP conveyance efficiency was developed, whether DOI had considered the 1994 Report to Congress on the Newlands Project Efficiency Study, how the lower storage targets relate to efficiency, and if we can be very accurate in measuring conveyance efficiency.

Two commenters stated that the conveyance efficiency requirement should not be lowered because the 1994 BOR Efficiency Study shows that efficiencies could be increased to 75 percent, and that lower efficiencies were inconsistent with BOR policy on water conservation.

Response: In planning the adjustments to be made to the 1988 OCAP, the DOI identified four changes within the scope of the 1988 OCAP: adjustments to Lahontan Reservoir storage targets based on current irrigated acres, conveyance efficiency requirements based on current irrigated acres, extending the time period for storage in lieu of diversions to avoid winter over diversions, and giving BOR flexibility in determining what snowpack/runoff forecasts to use. The DOI was asked to consider more fundamental changes to the 1988 OCAP approach to conveyance efficiency; however, the suggested changes were far beyond the scope of the Adjusted OCAP analysis. The DOI has committed to a review of conveyance efficiency requirements and conservation measures as part of long-term revisions to OCAP, but not as part of Adjusted OCAP.

The expected water savings from the 22 conservation measures identified in Table 4 in the 1988 OCAP were based on information available at the time. Many of those measures were suggested as a relatively inexpensive means to achieve the conveyance efficiency requirements in the 1988 OCAP. Some of the measures in Table 4 were expensive and some of the predicted savings have not been achieved in practice. Many of the 22 measures were implemented by TCID, although not always consistently, but the predicted water savings were not realized in all cases. In its 1994 Efficiency Study, the BOR recognized the differences between the water savings predicted in the 1988 OCAP and what had been achieved. It also identified other measures, some at quite low cost, that could increase project efficiency. The Adjusted OCAP incorporates the new information from the 1994 Efficiency Study and updates the table on Potential Water Conservation Measures. However, the 1988 OCAP neither required those specific measures from Table 4 to be implemented nor precluded the Project from implementing any other measures to improve water conservation and meet the efficiency requirement. The conservation measures are not a means of justifying conveyance efficiency requirements but were suggested as a way to achieve those requirements. Nor are the conveyance efficiency requirements a way to increase debits in the Project.

As suggested in a comment, it is difficult to know with precision how a particular conservation measure improves conveyance efficiency. One of the problems—and one of the twenty-two conservation measure suggestions—is the inaccuracy of measuring deliveries to headgates. As a result of the new Project O&M contract, TCID is undertaking installation of water measurement devices to improve measurement of headgate deliveries. The efficiency study estimates that this will actually increase efficiency by about 7.5 percent because the current measurement is inaccurate and seems to produce systematic over-diversions to Project irrigators.

In formulating the conveyance efficiency requirements for the 1988 OCAP, BOR compared the Newlands Project to two other irrigation projects concerning the conveyance efficiencies that might be achieved. The BOR looked at the Payette Division of the Boise Project and the South Side Pumping Division of the Minidoka Project, both in Idaho. The observed conveyance efficiency in the Payette Division is 66.3 percent and in the South Side Pumping Division 64.4 percent. As might be expected, the Newlands Project shares some characteristics with these projects and is different from them in other ways. The 1988 OCAP considered these to be ''comparable'' projects, but no assessment has been made of the validity of any comparisons.

The Adjusted OCAP reduction in the conveyance efficiency requirement is calculated based solely on the current Project acreage compared with the 1988 OCAP acreage assumptions and is unrelated to the calculation of the Adjusted OCAP storage targets. The conveyance efficiency requirement will be extrapolated each year using the 1988 OCAP acreage assumptions and the current acreage.

The DOI believes the reduced efficiency requirement to be consistent with other changes in the Adjusted OCAP based on Project acreage. This change recognizes the difficulty in meeting the efficiency requirements when headgate deliveries are lower. It is not a windfall for the irrigators because the reduced efficiency requirement still cannot be met without physical or operational improvements in the Project, although there is a benefit because it will reduce the debit the Project may incur in certain years.

4. Effects of Other Actions on Efficiency: One commenter noted that various water rights acquisition programs could result in the acquisition and transfer out of the Newlands Project of a significant portion of the water rights in the Truckee Division. The conveyance efficiency in the Truckee Division is approximately 74 percent, and this higher conveyance efficiency improves the overall Project conveyance efficiency. The commenter is concerned that Truckee Division water rights acquisitions will shift more of the burden of meeting efficiency targets to the less efficient Carson Division.

Four other commenters say that the wetlands water rights acquisition program managed by the FWS to acquire water rights for Stillwater National Wildlife Refuge will make it difficult to achieve the required efficiencies. The wildlife refuge is at the end of the Project delivery system and commenters contend delivering increasing amounts of water to the end of the system will reduce conveyance efficiency. Another concern is that the pattern of water rights acquisitions may eliminate deliveries to some properties along a delivery lateral and result in less efficient water deliveries to other remaining properties on the lateral. One commenter disagreed with the assumption that the water rights acquisition program will, over time, help to improve conveyance efficiency in the Carson Division, and cited the 1994 BOR Efficiency Study to support this claim .

Response: While the concern for conveyance efficiency is legitimate, the specific argument is questionable considering that wasteful deliveries occur, including one at no more than about five percent efficiency.

The DOI continues to believe that the pattern of purchases, predominantly in the Stillwater and St. Clair Districts, the areas closest to the wetlands, will improve Project efficiencies by concentrating deliveries through the system. This is consistent with the 1994 BOR Efficiency Study which states that delivery of more water to wetlands should not affect seepage because the canals used to deliver water to the wetlands are generally full throughout the irrigation season, and that the wetted area of the canal and not flow determines seepage.

The DOI recognizes that absent targeted water rights acquisitions, the FWS may buy water rights in other areas of the Project. It is the DOI position that if, at some appropriate point in the future, water rights acquisitions in the Truckee Division or the Carson Division are shown, on the whole, to have a demonstrable adverse effect on Project conveyance efficiency, the calculation of Project conveyance efficiency may be adjusted. This would be done solely at the discretion of the BOR and only if a feasible technical approach can be developed to remove the inefficient component of the delivery system from the calculation of conveyance efficiency.

This should not affect the Secretary's carrying out his trust obligations to the PLPT because each wetlands acquisition reduces the demand for Truckee River water in the Project by transferring to the wetlands only 2.99 acre-feet of every 3.5 or 4.5 acre-feet acquired. Also, the conveyance efficiency improvements from concentrating deliveries to the wetlands further reduces the demand for Truckee River water in the Carson Division.

5. Credit Storage in Lieu of Diversions: The proposed Adjusted OCAP rule extended the time period during which water might be stored in Stampede Reservoir on the Truckee River in lieu of diverting that water to Lahontan Reservoir. The 1988 OCAP allowed storage in lieu of diversion from April through June. The proposed rule extended storage in lieu of diversion to begin as early as January each year.

Six commenters raised a number of questions, foremost seeking a better description of when credit storage provisions would be utilized, how much water could be stored, when it would be released from storage, and how it relates to storage targets. Another question was why DOI was using credit storage to address unique events like high runoff years, but not drought years. One commenter suggested that there would be little benefit for the Truckee River or Pyramid Lake if credit storage is only used in years that are full water years or better. Some comments expressed concern for water levels in Lahontan Reservoir when water was being stored in Truckee River reservoirs, and saw the potential for less carry over storage in Lahontan and more diversions from the Truckee River. One commenter questioned why unused Newlands Project water could not be carried over to the next year in Truckee River reservoirs. Another commenter asked why the credit water could only be used in the Carson Division when the greater need for the water might be in the Truckee Division.

Two commenters recommended that the credit storage in lieu of diversions start in October to avoid excess diversions, particularly in November and December. One commenter suggested that storage in lieu of diversions should be done whenever possible, regardless of runoff forecasts, and that credit water only be taken to Lahontan Reservoir after June and then only to meet storage targets.

One commenter was concerned about the effects of storage in Truckee River

reservoirs and recommended that water be stored in all Truckee River reservoirs, not just Stampede reservoir, and that unused portions of the credit storage should revert to the reservoir in which the water would have been captured. The commenter wanted the storage priority for OCAP credit water to be junior to all existing categories of stored water and junior to all future storage under the TROA, and that it not be stored adverse to Floriston rates without a hydropower waiver from Sierra Pacific Power Company. Also, they indicated that the OCAP credit storage should be subject to reductions by evaporation and spills.

Response: Extending the time period during which the credit storage provision is applicable is intended to fine-tune the amount of water the Project receives from the Truckee River. It is a way to avoid excess winter diversions of Truckee River water that ultimately spills from Lahontan Reservoir, as occurred in 1995, 1996, and 1997. The following discussion is intended to clarify when and how the credit storage provision (§ 418.20 (f)) will be used. In response to comments received, and in consideration of the experience in December 1996 when approximately 22,000 acre-feet of water was diverted from the Truckee River to Lahontan Reservoir and then was spilled in January 1997 due to high Carson River runoff, the Adjusted OCAP rule extends credit storage in lieu of diversion to include November and December. October was not included because it is during the irrigation season and because it is the month with the lowest storage target—52,000 acre-feet—so there is little risk that Truckee River diversions to meet that target would result in a spill. As revised, this Adjusted OCAP rule provides the BOR flexibility to determine, in consultation with other parties, whether to initiate credit storage any time from November through June of the next year.

Under this credit storage provision, water that otherwise would have been released for diversion to Lahontan Reservoir that is actually retained in Truckee River reservoirs would be credited as Newlands Project credit water. Also, water that could be diverted to Lahontan Reservoir but is allowed to pass Derby Dam may be credited as Newlands Project credit water in Stampede Reservoir from the fish water stored in Stampede Reservoir. In the latter situation, concurrence by the FWS, and as appropriate, the PLPT, will be required because they control the use of fish water, and the storage would have to be accomplished by exchange with water dedicated to help restore endangered and threatened fish at Pyramid Lake. For example, a reduction of diversions in January through March of 1995, would have required FWS approval because water was not being released for Project diversions.

Newlands Project credit water could be exchanged to other special categories of water in Truckee River reservoirs such as project water held for fish recovery, and can be retained in storage until the end of the irrigation season. The number of categories available for such exchanges is expected to increase if the TROA currently in negotiation is completed and entered into effect.

Newlands Project credit water that spills may be captured and diverted to the Project at Derby Dam if the diversion is within the applicable OCAP storage targets. However, Newlands Project credit water remaining in storage at the end of the Project irrigation season will be managed to benefit threatened or endangered fish in Pyramid Lake.

Newlands Project credit water may be released for diversion to Lahontan Reservoir, if needed, as early as July 1 through the end of the irrigation season, but not thereafter. Credit water can be diverted to Lahontan Reservoir only to meet applicable storage targets during the irrigation season. Newlands Project credit water will not carry over to the next year for use in the Project, therefore, if it is not used in the year in which it is stored, it will not be available thereafter to the Project. To protect the water users, the Newlands Project credit water held in storage on the Truckee River will not be reduced as a result of seepage or evaporation. If Newlands Project credit water spills from Truckee River reservoirs it can be diverted at Derby Dam for Lahontan Reservoir subject to applicable storage targets.

If the entire amount in credit storage is needed to meet Lahontan Reservoir storage targets, then the amount of water released from Truckee River reservoirs will be the amount actually captured in storage. If the Newlands Project credit storage is based on water that was allowed to pass Derby Dam, then sufficient water will be released from credit storage to ensure that the diversion to the Project, as measured at the U.S. Geological Survey gauge on the Truckee Canal near Wadsworth, Nevada, matches the diversion foregone earlier in the season.

The BOR is expected to apply this provision starting in November or December only in years when the water levels in Lahontan Reservoir and Truckee River Federal reservoirs are high enough to indicate that a normal or near normal water year would be expected to satisfy Project water demand. For example, there would be no point in credit storing potential Truckee River diversions in November or December if Lahontan Reservoir were nearly empty due to a drought in the preceding irrigation season. Thereafter, Newlands Project credit water will be stored in lieu of diversion if the Carson River runoff is forecast to provide a full supply of water to Lahontan Reservoir.

The reason Newlands Project credit storage is not allowed to carry over to subsequent years is because, by definition, the water left in storage at the end of the irrigation is water that was not needed to serve Project water rights. In accordance with *Tribe* v. *Morton*, the credit water remaining is water that must flow to Pyramid Lake.

The effect of this provision on water levels in Lahontan Reservoir will vary from year to year, depending on the amount and timing of the Carson River spring runoff. The information on storage levels in Table D does not include any effects from storage in lieu of diversion. If, as expected, credit storage is exercised only during above average water years, it may have little effect on recreation levels in Lahontan Reservoir. Credit storage will tend to reduce water levels in Lahontan, particularly in the spring and early summer recreation seasons, but if the credit water is needed and taken to Lahontan later in the summer it will increase water levels. The fine tuning facilitated by credit storing will tend to reduce carry over of Truckee River water in Lahontan and this will decrease spills.

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TABLE D

Percent of Time Lahontan Reservoir Storage is Less Than Given Value on Indicated Date (1901-1995)[1]					
Date	Lahontan Reservoir Storage[2]	1988 OCAP	Current Condition	Proposed Adjusted OCAP	Final Adjusted OCAP
April 30	160,000[3]	7%	4%	20%	20%
	120,000[4]	3%	3%	3%	3%
	90,000[5]	2%	2%	2%	2%
May 31	200,000[3]	13%	13%	43%	43%
	120,000	6%	3%	7%	7%
	90,000	3%	2%	3%	3%
June 30	200,000[3]	20%	20%	45%	45%
	120,000	9%	7%	10%	10%
	90,000	8%	3%	8%	8%
July 31	160,000[3]	24%	21%	48%	44%
	120,000	14%	10%	18%	18%
	90,000	10%	8%	12%	12%
August 31	120,000[3]	31%	21%	51%	51%
	100,000[6]	20%	15%	39%	26%
	90,000	20%	13%	25%	23%
September 30	120,000[3]	49%	41%	58%	58%
	90,000[5]	23%	20%	53%	52%
	25,000[6]	10%	10%	11%	11%

1. All the footnotes from Table A apply to this Table.
2. Values in acre-feet
3. State of Nevada monthly preferred reservoir storage levels for recreation.
4. 120,000 acre-feet is the minimum reservoir storage levels allowing safe use of existing boat ramps.
5. New storage level for safe use of boat ramps after extension of ramps as a mitigation measure.
6. State of Nevada recommended minimum storage level.

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The Newlands Project credit water is not intended to be used to balance the water supply between the Truckee and Carson Divisions of the Project. The credit storage is created out of water that would have gone to Lahontan Reservoir. If the credit water is needed to meet storage targets in Lahontan Reservoir but it is instead diverted for use in the Truckee Division, that leaves the Reservoir below targets and places an additional call on Truckee River water. On the other hand, if diversions out of winter and spring Truckee River water would have met Lahontan storage targets and summer and fall flows are insufficient to meet current demand there would be no bar to using a portion of the stored water to equalize deliveries between the two Divisions. It is expected that this situation could occur rarely, if at all, since the intention is to divert sufficient water, when available, to serve water rights and to store water in Stampede Reservoir only when Carson River flows are expected to meet the Lahontan Reservoir storage target criteria.

The priority of storage for Newlands Project credit water in relation to other stored water and to Sierra Pacific Power Company's hydropower right is expected to be resolved in TROA negotiations which are not yet completed. (See also the response I.10. on the relationship of Adjusted OCAP to TROA.)

6. Cui-ui Fish: Measures to recover the endangered cui-ui, a fish species unique to Pyramid Lake, are detailed in the 1992 Cui-ui Recovery Plan prepared by the FWS. These measures include increasing the inflow of the Truckee River to the Lake to first stabilize what has been a falling lake level, then increasing the water level in the Lake so that the fish can eventually swim unaided up the Truckee River to the fish passage facility at Marble Bluff Dam where they are passed upstream to spawn. If the Lake level rises above Marble Bluff Dam, the cui-ui will be able to spawn upstream without human assistance to get over the dam.

Three good water years and four years of cui-ui spawning runs have dramatically increased the population of cui-ui in Pyramid Lake, although much of the increased population is juvenile fish which have yet to contribute to spawning. Along with successful spawning and increasing population have come questions about how much water the cui-ui need for recovery. Nine commenters raised a number of issues regarding cui-ui, the heart of which is questioning the need for Adjusted OCAP in light of recent increases in the cui-ui population. The underlying assumption is that the Adjusted OCAP's purpose is to obtain more water from the Newlands Project for cui-ui recovery. This notion was probably reinforced by the Endangered Species Act (ESA) consultation on the 1988 OCAP which effectively limited the maximum allowable diversion in the Project to 320,000 acre-feet per year to avoid jeopardizing the continued existence of cui-ui. One commenter asked what the current biological opinion shows for cui-ui at current population levels.

One commenter asked why the 1988 OCAP was being changed when the Recovery Plan was still under review by the National Academy of Science. Two commenters questioned if a water demand for Pyramid Lake or cui-ui had been defined or if DOI had performed a demand study for the Newlands Project and concluded it needed 110,000 acre-feet for cui-ui. Several commenters believed that modeling done for Adjusted OCAP is flawed because it doesn't reflect current cui-ui data on population or lake level relationships, and there is no information on how the cui-ui index was formulated. These commenters also thought too much water might be going to Pyramid Lake and could affect boating, the delta wetlands, pelicans, and grazing. One commenter questioned why getting 110,000 acre-feet of water to Pyramid Lake for recovery of the cui-ui was the sole responsibility for the Newlands Project.

Response: The original litigation in *Tribe* v. *Morton* is the basis for the current OCAP for the Newlands Project, and that case is based on the Secretary's trust responsibilities to the Pyramid Tribe, not the Secretary's responsibilities under ESA to recover cui-ui. This is not to say that cui-ui recovery is ignored in developing OCAP. As with any action that may affect a species listed under the ESA, the Secretary had to consider the effects of the 1988 OCAP on cui-ui and consult with the FWS which resulted in the 1988 biological opinion. We have again consulted with the FWS on this Adjusted OCAP and the FWS has confirmed that the Adjusted OCAP will not adversely affect listed species, including the endangered cui-ui. The recent population increase does not alter the Secretary's trust responsibility to ensure that only the water needed to serve Project water rights is diverted from the Truckee River.

The Cui-ui Recovery Plan calls for annual inflow to Pyramid Lake to increase by 110,000 acre-feet, although some of this water may be in the form of equivalent benefits like improvements in lower Truckee River habitat or enhanced fish passage over Marble Bluff Dam. This amount of water or its equivalent is not based on a study of how much water can or should be taken from the Newlands Project for cui-ui, but on a determination of the water flows and Lake levels needed to ensure the persistence of the species.

A revised provisional version of the cui-ui model has undergone peer review and will be submitted to the cui-ui recovery team for their consideration of the model and its results. The revised model includes new information on cui-ui spawning and survival developed since the current model version was developed. The revised model is expected to better mirror the recent increases in cui-ui population. Even with the current cui-ui model, the cui-ui results presented in Table A show a marked increase in cui-ui numbers over the proposed rule modeling because of the inclusion of the three good spawning years in the hydrology. Except for the peer review of the model noted above, we are not aware of any review of the Cui-ui Recovery Plan by the National Academy of Science.

The reduced diversions of Truckee River water under Adjusted OCAP do increase inflow to Pyramid Lake and, if the next 95 years match the hydrology of the last 95 years (as the model operates), Pyramid Lake could rise as much as 37 feet. This would inundate some existing recreational facilities and possibly some roads, all of which would have to be relocated. However, this only brings the elevation of Pyramid Lake to approximately 3,840 feet, which is still lower than Marble Bluff Dam and well below the Lake level when the Newlands Project began.

7. *Impacts on Recreation*: Lahontan Reservoir is one of Nevada's most important recreational lakes. It is operated as a State park recreation area through an agreement with the BOR. A number of comments were received citing the effects of lower storage targets in Lahontan Reservoir on use of the lake for boating, fishing, swimming, and camping. Nine commenters expressed concerns for recreation.

Several commenters cited Nevada's investment of $6.5 million in facilities at Lahontan Reservoir, and view the Adjusted OCAP as a breach of trust of the recreation agreement between the State and the BOR, and further, as a conflict with the Reclamation Recreation Management Act of 1992 section 2802 findings.

Most impacts are related to the lower water levels in Lahontan during summer holidays. One commenter says the times the July target of 150,000 acre-feet won't

be met increases from 38 years to 54 years out of 94 years. Another commenter cites a 41 percent reduction in storage. There is also a concern that these impacts occur at a time of rapid growth in Nevada. One commenter says the impact of losing 50,000 acre-feet to Pyramid Lake is minimal compared with the virtual destruction of recreation at Lahontan by these changes. One commenter suggested that the State of Nevada should purchase and dedicate water rights for recreation at Lahontan.

Response: Lahontan Reservoir was constructed for the purpose of storing water to serve the Newlands Project. The Reservoir itself does not enjoy an adjudicated or quantified water right. The United States Court of Appeals for the Ninth Circuit has opined that ''The Lahontan Reservoir, as a Project built under the federal Reclamation Act, was intended for the primary benefit of the farmers who would use its waters for irrigation, and any beneficial use of the reservoir by way of recreation could only be incidental to that purpose.'' Further, the United States has an affirmative duty pursuant to its trust obligations to the PLPT not to divert any more water from the Truckee River than is needed to meet Project water rights.

Not surprisingly, the water level in Lahontan fluctuates during the irrigation season and from year to year, and is not always favorable to recreational uses. Modeling results for the proposed Adjusted OCAP indicate lower levels in Lahontan Reservoir during the recreation season than are experienced under the 1988 OCAP. In response to comments, but taking the Secretary's trust responsibility into account, the storage targets in Adjusted OCAP have been modified from the proposed rule as shown in Table A, lines 33 through 40. This change in the final rule provides a slight increase in recreation levels in Lahontan during the summer season.

Water levels in Lahontan Reservoir under the Adjusted OCAP will not cause any damage to the existing recreation facilities developed and constructed by the State of Nevada. The concern is that lower water levels will ''virtually destroy'' the Reservoir as an important recreation resource. The main obstacle to Lahontan recreation from lower water levels is the boating access to the Reservoir via paved boat ramps. The boat ramps are currently useable down to a storage level of 120,000 acre-feet. As a mitigation measure to ensure continued boating access to Lahontan Reservoir, the DOI proposes to extend the boat ramps so that there is safe access down to a storage level of 90,000 acre-feet. With the extended boat ramps, modeling results for Final Adjusted OCAP shown on Table D indicate that there should be boating access through the Labor Day holiday about 75 percent of the time.

Regarding the suggestion that the State of Nevada should purchase and dedicate water rights for Lahontan Reservoir, this is beyond the scope of this rule and beyond DOI jurisdiction. However, the State has had discussions with the DOI on doing exactly this in conjunction with acquiring water rights upstream of Lahontan Reservoir for recreational and wetlands use.

8. Impacts on Wetlands: Eight commenters were concerned that Adjusted OCAP would adversely affect the efforts of the FWS and the State of Nevada to restore 25,000 acres of wetlands in Lahontan Valley because of reduced flows to the wetlands. Flows to wetlands might be reduced in three ways. First, agricultural water rights acquired by the FWS or the State and transferred to wetlands are subject to all OCAP requirements and effects on the water supply. Any increase in water shortages for farmers is an increase in shortages for wetlands. Second, the lower Lahontan Reservoir storage targets will reduce the frequency and quantity of spills and precautionary draw-downs from the Reservoir, a portion of which flows to wetlands. Third, any reduction in the water applied to farm lands reduces the return flows to agricultural drains, some of which carry water to the wetlands.

Several commenters felt that Adjusted OCAP conflicts with or invalidates the assumptions in the Water Rights Acquisition EIS recently published by the FWS, because they will need to acquire more agricultural water rights. They did not believe it was the role of the State or Federal water rights acquisition programs to mitigate for effects from Adjusted OCAP. One also questioned if needing to mitigate for effects on wetlands was contrary to the 1988 OCAP preamble.

Finally, one commenter asked how the OCAP would account for any wetland water rights acquired above Lahontan Reservoir.

Response: Adjusted OCAP will not cause a net loss in wetlands, however, it will have a minor effect on how quickly the FWS can obtain all the water it needs for wetlands, and will require the FWS to obtain additional water rights. Modeling results show that the long-term effect of Adjusted OCAP will reduce slightly the yield from acquired water rights for wetlands, reduce drainflows, and reduce water reaching the wetlands from spills. The effect of Adjusted OCAP may be a reduction in headgate deliveries and drainflows by about 1,100 acre-feet. The average reduction in spilled water may be 4,000 acre-feet. Neither of these effects are necessarily additive because the average spill reduction does not occur in the same year as droughts which would cause delivery and drainflow reductions. However, the Project and the wetlands are expected to receive a full supply of water in 9 out of 10 years. In full water years or in years with spills, there would be no effect on headgate deliveries and drain flows.

The precise amount of additional water that may need to be acquired cannot be determined at this time because the modeled effects described above do not occur simultaneously, and there has not been enough time to precisely assess the long-term average acreage produced by a given water supply. The wetlands acreage will naturally vary because of wet years and dry years. The TCID policy of basing a water right owner's share of water in a drought year on both active and inactive water rights will slightly augment the amount of water the FWS might otherwise receive for wetlands. This is because a portion of the water rights acquired by the FWS are inactive, and because they are not transferring the full water duty. Also, the amount of water reaching wetlands during a spill or precautionary release is variable. Most of the water released does not reach the wetlands because of limitations in the system to deliver water to the wetlands. The FWS is considering improvements in the Project delivery capacity to the wetlands which will help get more water to wetlands during spills. Under a separate action, new criteria for the management of excess water from precautionary releases and spills from Lahontan Reservoir are being developed by the BOR. These criteria will help ensure that deliveries of excess water to wetlands are given a high priority.

The effects of Adjusted OCAP were considered in the FWS Water Rights Acquisition Final EIS (pages 4–145 to 4–147) and in its Record of Decision on the water acquisition alternative. The FWS acknowledged that it might have to acquire additional water rights to make up for any reductions. It is expected to take the FWS some 10 to 20 years and perhaps longer to acquire water needed to create, on average, 25,000 acres of wetlands. Over that time, in managing water to have an average amount of wetlands, it will be very difficult to determine how much additional water had to be acquired because of Adjusted OCAP. In its Record of Decision, the FWS said it would periodically reassess

its water needs and its ability to obtain water from all the sources under consideration.

The State of Nevada would experience similar effects on wetlands water, proportional to the amount of water rights they own, however, the FWS must acquire the necessary water rights to achieve the full 25,000 acres of wetlands.

The Adjusted OCAP does not address how to account for wetlands water rights acquired above Lahontan Reservoir. This may be managed on a case-by-case basis by the DOI.

9. Impacts on Groundwater: The Newlands Project is the principal source of water for recharge to the shallow aquifers in the Lahontan Valley and Fernley areas. Both Fallon and Fernley have municipal water supplies that rely on groundwater. Elsewhere in the Lahontan Valley, individual wells and community wells provide a domestic water supply.

Fourteen commenters have expressed concerns about the effects of the Adjusted OCAP on groundwater. The source of concern is that Adjusted OCAP will reduce the amount of water that moves through the Truckee Canal and that is available for use in the Lahontan Valley. A number of commenters said there would be significant reductions in the recharge to the shallow aquifer resulting in reduced water for domestic wells, for municipal and industrial use, and adverse effects on water quality.

Several commenters were concerned about recharge to the basalt aquifer from which the City of Fallon draws its municipal water supply, and the secondary effects this might have on future water supplies and economic development in the area. One commenter said the effects of reduced drain flows posed qualitative risks for humans and the environment and might have legal implications for the Carson River above Lahontan Reservoir and in California.

Several commenters also were concerned about reduced Truckee Canal flow affecting recharge to the aquifers in the Fernley area, and thus affecting municipal water quantity and quality, and having socio-economic and environmental impacts.

Response: The recharge of groundwater from irrigation in the Newlands Project is incidental and there is no water right to require recharge. Using data from the U.S. Geological Survey [1] (USGS), the FWS, in their water rights acquisition EIS,[2] estimates the current average recharge in the Lahontan Valley from irrigated agriculture to be about 123,300 acre-feet a year. At completion of their water rights acquisitions, the FWS estimates that recharge to groundwater will be about 93,000 acre-feet per year.

The modeled change in the quantity of water from the Truckee River reaching Lahontan Reservoir from the Current Condition to the Final Adjusted OCAP in Table A is 20,200 acre-feet (line 10). This difference in inflow is offset because the lower targets result in 5,700 acre-feet of less reservoir loss (line 12) from evaporation and seepage. The exact amount of loss that might go to seepage is unclear, however, seepage is thought to contribute only minor amounts of water to groundwater recharge in Lahontan Valley (Mauer, *et. al.*). Of the remaining reduction, part is accounted for by a difference of about 12,200 acre-feet per year in reduced spills (line 14), much of which is surface flow that goes directly to wetlands and the Carson Sink and does not recharge groundwater. The remaining portion of the reduction is 2,550 acre-feet from water applied to irrigated lands (line 17). The combination of spills and reduction to irrigation is 14,750 acre-feet per year, resulting in a net annual recharge of about 108,550 acre-feet at current rates, and about 78,250 acre-feet after wetland water acquisitions. This recharge rate far exceeds the current water consumption of about 13,000 acre-feet in the Lahontan Valley from municipal and domestic well sources.

Adjusted OCAP will increase shortages during drought years as shown in Table B. However, well monitoring in the Lahontan Valley by the USGS during and following the last drought period shows that water levels in the shallow aquifer drop during droughts but returned to pre-drought levels during full water years.[3] The Adjusted OCAP is modeled to provide full water years in 9 out of 10 years. Generally, any effect the Adjusted OCAP might have on groundwater levels in the shallow aquifer during droughts would be eliminated by subsequent full water years.

The basalt aquifer is already being mined by the municipal water withdrawals for the City of Fallon, Naval Air Station, and Fallon Tribe. The degree to which the basalt aquifer is recharged by the shallow and intermediate aquifers is uncertain, but is the subject of a study by the USGS being funded by the Navy and DOI. The study will help define how the basalt aquifer is recharged and its potential for recharge from surface water supplies. If the shallow aquifer is an important recharge pathway for the basalt aquifer, then in 9 out of 10 years the Adjusted OCAP would have no effect on recharge to the basalt aquifer. Even in drought years and with any additional water shortage related to the Adjusted OCAP, the effect on groundwater levels in the shallow aquifer is unknown and the degree to which this affects the basalt aquifer likewise unknown, but is not expected to be large.

Lahontan Valley, formed under ancient Lake Lahontan and then from the sediments borne by the meandering Carson River, has numerous discontinuous, unconsolidated deposits of sands, silts, and clays that caused great variability in local use and quality of groundwater. The local variability and the small reduction in groundwater recharge compared with natural events like droughts makes it impossible to identify any effects on groundwater quality or drain water quality.

Reducing the total flow of water through the Truckee Canal to Lahontan Reservoir will likely reduce seepage into groundwater in the Fernley, Hazen, and Swingle Bench areas. The modeled change in canal loss from the current condition to Adjusted OCAP is about 1,900 acre-feet per year out of a current canal and irrigation recharge of more than 41,000 acre-feet per year of recharge from Project irrigation. The percent reduction in recharge that may affect a particular community along the Truckee Canal is not known.

10. Effects on the Fallon Paiute-Shoshone Tribes: The Fallon Paiute-Shoshone Tribe Reservation is located within the Project and has Project water rights. One commenter asked why the protection of the Tribe's trust interests had been dropped from the guiding principles in Adjusted OCAP. Another commenter was concerned with effects of Adjusted OCAP on the domestic water supply of the Tribe. Two commenters objected to the Tribe receiving a full supply of water down to a 56 percent water year and wanted to know why this didn't apply to other water users in the Project.

Response: The reference to fulfilling Federal trust responsibilities to the Fallon Tribe was inadvertently deleted from the list of guiding principles that appeared in the proposed rule. The

[1] Mauer, D.K., A.K. Johnson, and A.H. Welch. 1994. ''Hydrology and potential effects of changes in water use, Carson Desert agricultural area, Churchill County, Nevada.'' U.S. Geological Survey Open File Report 93–463.

[2] U.S. Fish and Wildlife Service. 1996. ''Final environmental impact statement: Water rights acquisition for Lahontan Valley wetlands, Churchill County, Nevada.'' Portland, Oregon.

[3] Personal communication: USGS, Water Resources Division, Carson City, NV. 1997.

Fallon Tribe is added to this principle in the preamble to this Adjusted OCAP rule.

The domestic water supply on the Fallon Indian Reservation comes from wells in the basalt aquifer. The discussion on the basalt aquifer in 9. above applies here as well.

Regarding the allocation of water to the Tribe in a water short year, the Tribe is treated by TCID exactly as everyone else is in the Project. In water short years, TCID bases water allocations on each water users total water right including active and inactive water rights. The Fallon Tribe has 19,041.05 acre-feet of water rights appurtenant to their Reservation. However, Pub. L. 101–618 limited the Tribe to using only 10,587.5 acre-feet or approximately 56 percent of that water right per year as part of a settlement with the Tribe. Though the remaining 8,453.55 acre-feet of water rights are not active because the Tribe cannot call for this water, the DOI pays operations and maintenance fees to TCID on the full 19,041.05 acre-foot water right. Therefore, in a 56 percent water year (or better), the Tribe gets 56 percent of 19,041.05 acre-feet of water which equals their use cap of 10,587.5 acre-feet.

III. Technical Issues

1. Rock Dam Ditch: The proposed Adjusted OCAP rule would have changed how certain diversions to Rock Dam Ditch are counted. Rock Dam Ditch may receive water directly from releases at Lahontan Reservoir, or may get water directly from the Truckee Canal via a siphon pipe under the stilling basin below Lahontan Dam. In the proposed rule, diversions directly from the Truckee Canal would have counted against the Truckee Division. Two commenters noted that this is incorrect and all diversion to Rock Dam Ditch should be counted in the Carson Division.

Response: The commenters are correct, as the water that reaches Rock Dam Ditch would, in all cases, come from water in Lahontan Reservoir or destined to arrive in Lahontan Reservoir. The language at section 418.23 has been revised.

2. Credit and Debit Procedures: Three commenters object to how the credit and debit incentive provisions preserved from the 1988 OCAP provide for a full debit but a credit of only two-thirds of the actual savings. They suggest the credit should be a full credit.

Response: These credit and debit provisions are in the 1988 OCAP as a way to encourage the Project to meet or exceed the efficiency targets. The debit is based fully on the excess water that was used in the season. Using that excess water leaves Lahontan Reservoir with less winter carryover storage, and allows for larger amounts of Truckee River water to be diverted to make up for the ''hole'' that was left in the Reservoir.

The credit provision allows the Project to take advantage of the unused water any time it exceeds the efficiency targets. By definition, this unused water is water that was not needed to serve Project water rights. The Gesell decision in *Tribe* v. *Morton* specifies that only the water needed to serve Project water rights can be diverted to the Project from the Truckee River. Therefore, the Project earns a credit for the portion of the Carson River water saved through greater efficiency, presumed to be about two-thirds because about two-thirds of the Project water comes from the Carson River. The remaining third stays in Lahontan Reservoir to help reduce future diversions of Truckee River water as a way of returning the Truckee River water that was not needed when the credit was earned.

3. Forecasting: One commenter wanted clarification of how the deliberative forecasting process will work and wanted to know if this would avoid what happened in the 1993–1994 season when a full water year was initially forecast and it turned out to be one of the driest years on record.

Response: The 1988 OCAP required the BOR to rely solely on the NRCS runoff forecasts for the Carson River. However, there are runoff forecasts prepared by other Federal and State agencies that can be used along with the NRCS forecast. The consultation process also allows the BOR to take advantage of the years of experience available from local authorities. This change was proposed in the Adjusted OCAP in response to the situation that occurred in 1993–1994.

4. Water Rights Maps: Two commenters object to using the TCID's water maps to determine eligible land irrigated with transferred water rights, saying that the maps were never intended to be in OCAP. They suggest that eligible lands should follow what is defined in contracts, decrees, and State law.

Response: The BOR relies on the TCID to maintain and keep up-to-date these water rights maps as the basis for determining which lands are eligible to be irrigated. The land definitions in contracts and decrees do not indicate whether a particular parcel has been irrigated and is deemed to have a valid water right. Issues of eligible land and valid transfers are before the Nevada State Engineer at this time.

5. Floods: One commenter said that before completing the rulemaking a study needs to be done of whether OCAP contribute to flooding.

Response: The flooding on the Carson and Truckee Rivers in 1997 was an excellent example of how OCAP do not affect flooding. Thanks to Lahontan Dam and Reservoir, the communities below the dam were the only areas that were not flooded in January 1997. The irrigation system below the Dam, including the Carson River, can handle releases of about 2,000 cubic feet per second (cfs) without causing flooding. During the flood, the inflow to Lahontan Reservoir was higher than 10,000 cfs at times. That flow would have caused widespread flooding in the Lahontan Valley if not for the storage available in the Reservoir. Without any OCAP, much less space would have been available to capture and regulate the flood waters because, prior to OCAP, the Project diverted water from the Truckee River year-round. The Adjusted OCAP will further help reduce flooding risks.

6. 1967 OCAP Language: One commenter suggested leaving in place the Statement of Considerations and some objectives from the 1967 OCAP that is currently in the Code of Federal Regulations at 43 CFR Part 418 and is to be replaced by this rule. The commenter says the information is important to understanding the need for OCAP.

Response: Much of the information contained in the 1967 OCAP Statement of Considerations has been incorporated in the preamble to this rulemaking and prior OCAPs. The 1967 OCAP is being replaced in its entirety.

Administrative Matters

- This rule has been made effective on publication to stop ongoing diversions of water from the Truckee River to Lahontan Reservoir. Under the current 1988 OCAP storage target provisions, approximately 500 acre-feet per day are being diverted. The diversion will continue to divert until the Adjusted OCAP and a new set of Lahontan Reservoir storage targets go into effect. This water is not needed to serve water rights in the Newlands Project at this time and in accordance with the requirements of *Tribe* v. *Morton* is water that must flow to Pyramid Lake.
- This rule is not a significant rule under Executive Order (E.O.) 12866 and does not require review by the OMB.
- As required by the Regulatory Flexibility Act, it is hereby certified that this rule will not have a significant impact on small business entities.

• This rule does not include any collections of information requiring approval under the Paperwork Reduction Act.

• The DOI has determined that the proposed rule is not a major Federal action having significant effects on the human and natural environment. An environmental assessment (EA) has been prepared on the effects of the proposed rule.

• The proposed rule has no substantial effects on Federalism under the requirements of E.O. 12612.

• The proposed rule does not have a significant impact on family formulation, maintenance, and general well-being under the requirements of E.O. 12606.

• The proposed rule does not represent a government action that would interfere with constitutionally protected property rights and does not require a Takings Implications Assessment under E.O. 12630.

• The proposed rule meets the applicable standards of civil justice reform in accordance with E.O. 12988.

• The proposed rule will not result in aggregate annual expenditures in excess of $100 million by state, local, and tribal governments, or the private sector and is, therefore, not subject to the requirements of Section 202 of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4).

The author of this rule is Jeffrey Zippin of the Department of the Interior, Truckee-Carson Coordination Office.

The rule replaces the 1967 OCAP regulations at 43 CFR 418. That regulation was superseded by subsequent U.S. District Court-approved OCAP, including the 1988 OCAP, which are the basis for this rule.

List of Subjects in 43 CFR Part 418

Irrigation, Water supply, Newlands Irrigation Project; Operating criteria and procedures.

Dated: December 11, 1997.

Patricia J. Beneke,

Assistant Secretary—Water and Science.

For the reasons set forth in the preamble, 43 CFR part 418 is revised to read as follows:

PART 418—OPERATING CRITERIA AND PROCEDURES FOR THE NEWLANDS RECLAMATION PROJECT, NEVADA

General Provisions

Sec.
418.1 Definitions.
418.2 How Project water may be used.
418.3 Effect of these regulations on water rights.
418.4 Prohibited deliveries.
418.5 Responsibility for violations.
418.6 Fallon Paiute-Shoshone Indian Reservation.

Conditions of Water Delivery

418.7 Who may receive irrigation deliveries.
418.8 Types of eligible land.
418.9 Reporting changes in eligible land.
418.10 Determining the amount of water duty to be paid.
418.11 Valid headgate deliveries.
418.12 Project efficiency.
418.13 Maximum allowable limits.

Monitoring Diversions

418.14 Recordkeeping requirements.
418.15 Operations monitoring.

Operations and Management

418.16 Using water for power generation.
418.17 Truckee and Carson River water use.
418.18 Diversions at Derby Dam.
418.19 Diversions from the Truckee River to the Truckee Division.
418.20 Diversions from the Truckee River to Lahontan Reservoir, January through June.
418.21 Diversion of Truckee River water to Lahontan Reservoir, July through December
418.22 Future adjustments to Lahontan Reservoir storage targets.
418.23 Diversion of Rock Dam Ditch water.
418.24 Precautionary draw down and spills from Lahontan Reservoir.
418.25 Water use for other than Newlands Project.
418.26 Charges for water use.
418.27 Distribution system operation.

Enforcement

418.28 Conditions of delivery.
418.29 Project management.
418.30 Provisions required in future contracts.

Water Management and Conservation

418.31 Conservation measures.
418.32 Cooperative programs.

Implementation

418.33 Purpose of the implementation strategy.
418.34 Valid headgate deliveries.
418.35 Efficiencies.
418.36 Incentives for additional long term conservation.
418.37 Disincentives for lower efficiency.
418.38 Maximum allowable diversion (MAD).
Appendix A to Part 418—Expected Project Conveyance Efficiency

Authority: 43 U.S.C. 391, et seq.; 43 U.S.C. 373; 43 U.S.C. 614, et seq.; 104 Stat. 3289, Pub. L. 101–618.

General Provisions

§ 418.1 Definitions.

Bureau means the Bureau of Reclamation.

Decrees means the *Alpine* decree (*United States* v. *Alpine Land and Reservoir Co.*, 503 F. Supp. 877 (D. Nev. 1980)) and the *Orr Ditch* decree (*United States* v. *Orr Water Ditch Co.*, Equity No. A–3 (D. Nev.))

District means the Truckee-Carson Irrigation District or any other approved Newlands Project operator.

Eligible land means Project land which at the time of delivery has a valid water right and either:

(1) Is classified as irrigable under Bureau land classification standards (Reclamation Instruction Series 510); or

(2) Has a paid out Project water right.

Full reservoir means 295,500 acre-feet in Lahontan Reservoir using Truckee River diversions. The Reservoir can fill above 295,500 acre-feet to 316,500 acre-feet with Carson River inflow and the use of flash boards. Intentional storage on the flash boards will occur only after the peak runoff.

Project means the Newlands Irrigation Project in western Nevada.

§ 418.2 How Project water may be used.

Project water may be delivered only to serve valid water rights used for:

(a) Maintenance of wetlands and fish and wildlife including endangered and threatened species;

(b) Recreation;

(c) Irrigation of eligible land; and

(d) Domestic and other uses of Project water as defined by the decrees.

§ 418.3 Effect of these regulations on water rights.

This part governs water uses within existing rights. This part does not in any way change, amend, modify, abandon, diminish, or extend existing rights. Water rights transfers will be determined by the Nevada State Engineer under the provisions of the *Alpine* decree.

§ 418.4 Prohibited deliveries.

The District must not deliver Project water or permit its use except as provided in this part. No Project water will be released in excess of the maximum allowable diversion or delivered to ineligible lands. Delivery of water to land in excess of established water duties is prohibited.

§ 418.5 Responsibility for violations.

Violations of the terms and provisions of this part must be reported immediately to the Bureau. The District or individual water users will be responsible for any shortages to water users occasioned by waste or excess delivery or delivery of water to ineligible land as provided in this part.

§ 418.6 Fallon Paiute-Shoshone Indian Reservation.

Nothing in this part affects:

(a) The authority of the Fallon Paiute-Shoshone Tribe to use water on the

Tribe's reservation which was delivered to the Reservation in accordance with this part; or

(b) The Secretary's trust responsibility with respect to the Fallon Paiute-Shoshone Tribe.

Conditions of Water Delivery

§ 418.7 Who may receive irrigation deliveries.

Project irrigation water deliveries may be made only to eligible land to be irrigated. The District must maintain records for each individual water right holder indicating the number of eligible acres irrigated and the amount of water ordered and delivered.

§ 418.8 Types of eligible land.

(a) *Eligible land actually irrigated.* During each year, the District, in cooperation with the Bureau, must identify and report to the Bureau the location and number of acres of eligible land irrigated in the Project. Possible irrigation of ineligible land will also be identified. The Bureau will review data to ensure compliance with this part. The District, in cooperation with the Bureau, will be responsible for field checking potential violations and immediately stopping delivery of Project water to any ineligible land. The Bureau may also audit as appropriate.

(b) *Eligible land with transferred water rights.* The District water rights maps dated August 1981 through January 1983 will be used as the basis for determining which lands have a valid water right. The original maps will be maintained by the District. The District must provide copies of the maps to the Bureau. The District will alter the maps and the copies to account for water right transfers as the transfers are approved by the Nevada State Engineer.

(c) *Other eligible land.* The Bureau will also identify eligible land that was not irrigated during the prior irrigation season.

§ 418.9 Reporting changes in eligible land.

(a) *Eligible land anticipated to be irrigated.* (1) Anticipated changes in irrigated eligible land from the prior year will be reported to the Bureau's Lahontan Area Office by the District by March 1 of each year. The District will adjust the acreage of the eligible land anticipated to be irrigated to correct for inaccuracies, water right transfers that have been finally approved by the Nevada State Engineer, and any other action that affects the number of eligible acres, acres anticipated to be irrigated, or water deliveries.

(2) As the adjustments are made, the District will provide updated information to the Bureau for review and approval. The District must adjust anticipated water allocations to individual water users accordingly. The allocations will at all times be based on a maximum annual entitlement of 3.5 acre-feet (AF) per acre of bottom land, 4.5 AF per acre of bench land, and 1.5 AF per acre of pasture land that is anticipated to be irrigated and not on the number of water-righted acres.

(3) The District will provide the individual water users with the approved data regarding the anticipated acreage to be irrigated and water allocations for each water user that year.

(i) Any adjustments based on changes in lands anticipated to be irrigated during the irrigation season must be reported by the individual water user to the District.

(ii) The District will, in turn, notify the Bureau of any changes in irrigated acreage which must be accounted for.

(iii) Each landowner's anticipated acreage must be less than or equal to the landowner's eligible acreage.

(4) Should a landowner believe that the number of acres of eligible land he or she is entitled to irrigate is different from the number of acres as approved by the Bureau, the landowner must notify the District and present appropriate documentation regarding the subject acreage. The District must record the information and present the claim to the Bureau for further consideration.

(i) If the Bureau determines there is sufficient support for the landowner's claim, then adjustments will be made to accommodate the changes requested by the landowner.

(ii) If the Bureau disallows the landowner's claim, the Bureau must notify the District in writing. The District will, in turn, inform the landowner of the disposition of the claim and the reasons therefore, and will further instruct the landowner that he or she may seek judicial review of the Bureau's determination under the decrees. If the dispute affects the current year, then the Bureau and the District will seek to expedite any court proceeding.

(b) *Changes in domestic and other uses.* By March 1 of each year, the District must report to the Bureau all anticipated domestic and other water uses. This notification must include a detailed explanation of the criteria used in allowing the use and sufficient documentation on the type and amount of use by each water user to demonstrate to the satisfaction of the Bureau that each water user is in compliance with the criteria. With adequate documentation, the District may notify the Bureau of any changes in domestic water requirements at any time during the year.

§ 418.10 Determining the amount of water duty to be delivered.

(a) Eligible land may receive no more than the amount of water in acre-feet per year established as maximum farm headgate delivery allowances by the decrees. All water use is limited to that amount reasonably necessary for economical and beneficial use under the decrees.

(b) The annual water duty as assigned by the decrees is a maximum of 4.5 AF per acre for bench lands and a maximum of 3.5 AF per acre for bottom lands. The water duty for fields with a mixture of bench and bottom lands must be the water duty of the majority acreage. Bench and bottom land designations as finally approved by the United States District Court for the District of Nevada will be used in determining the maximum water duty for any parcel of eligible land. The annual water duty for pasture land established by contract is 1.5 AF per acre.

§ 418.11 Valid headgate deliveries.

The valid water deliveries at the headgate are set by the product of eligible land actually irrigated multiplied by the appropriate water duty in accordance with §§ 418.8 and 418.10. The District will regularly monitor all water deliveries and report in accordance with § 418.9. No amount of water will be delivered in excess of the individual water user's headgate entitlement. In the event excess deliveries should occur, such amount will be automatically reflected in the efficiency deficit adjustment to the Lahontan storage. Water delivered in excess of entitlements must not be considered valid for purposes of computing project efficiency.

§ 418.12 Project efficiency.

(a) The principal feature of this part is to obtain a reasonable level of efficiency in supplying water to the headgate by the District. The efficiency targets established by this part are the cornerstone of the enforcement and the incentive provisions and when implemented will aid other competing uses.

(b) The efficiency is readily calculable at the year's end, readily applicable to water appropriate to that year, able to be compared to other irrigation systems even though there may be many dissimilarities, appropriate for long term averaging, adjustable to any headgate delivery level including droughts or allocations, automatically adjusts to

changes during the year and accurately accounts for misappropriated water. Efficiency also can be achieved through any number of measures from operations to changes in the facilities and can be measured as an end product without regard to the approach. Thus it is flexible enough to allow local decision making and yet is fact based to minimize disputes.

(c) Assuming the headgate deliveries are valid and enforceable, conveyance efficiency is the only remaining variable in determining the quantity of water needed to be supplied to the District. Conveyance efficiency is a measure of how much water is released into the irrigation system relative to actual headgate deliveries. Differences in efficiency, therefore, are directly convertible to acre-feet. The differences in efficiency, expressed as a quantity in acre-feet, may be added to or subtracted from the actual Lahontan Reservoir storage level before it is compared to the monthly storage objective. Thus, the diversions from the Truckee River, operation of other facilities (e.g., Stampede Reservoir) and decisions related to Lahontan Reservoir are made after the efficiency storage adjustments have been made. Operating decisions are made as if the adjusted storage reflected actual conditions.

(1) *Efficiency incentive credits.* In any year that the District's actual efficiency exceeds the target efficiency for the actual headgate delivery, two-thirds of the resultant savings, in water, will be credited to the District as storage in Lahontan. This storage amount will remain in Lahontan Reservoir as water available to the District to use at its discretion consistent with Nevada and Federal law. Such uses may include wetlands (directly or incidentally), power production, recreation, a hedge against future shortages or whatever else the District determines. The storage is credited at the end of the irrigation season from which it was earned. This storage ''floats'' on top of the reservoir so that if it is unused it will be spilled first if the reservoir spills. The District may use all capacity of Lahontan Reservoir not needed for project purposes to store credits.

(2) *Efficiency disincentive debits.* In any year that the District's actual efficiency falls short of the target appropriate to the actual headgate deliveries, then the resultant excess water that was used is considered borrowed from the future. Thus it becomes a storage debit adjustment to the actual Lahontan Reservoir storage level for determining all operational decisions. The debit may accumulate but may not exceed a maximum as defined in § 418.13(b). The debit must be offset by an existing incentive credit or, if none is available, by a subsequent incentive at a full credit (not a 2/3 credit), or finally by a restriction of actual headgate deliveries by the District. This would only be done prospectively (a subsequent year) so the District and the water users can prepare accordingly. Since the debit does not immediately affect other competing uses or the District (except in a real drought), it allows for future planning and averaging over time.

(3) *Efficiency targets.* To determine the efficiency target, the system delivery losses were divided into categories such as seepage, evaporation and operational losses. The ''reasonable'' level of savings for each category was then determined by starting with current operating experience and applying the added knowledge from several measures. Means of achieving the efficiency targets, including the specific conservation measures and amounts, are identified in the table Possible Water Conservation Measures for the Newlands Project. Applicable target efficiencies will be determined each year as described in § 418.13 (a)(4).

(4) *Available conservation measures.* The water conservation measures referred to in paragraph (c)(3) of this section and others currently available to the District are listed in the following table. The table has been revised based upon the Bureau of Reclamation's Final Report to Congress of the Newlands Project Efficiency Study, 1994.

POSSIBLE WATER CONSERVATION MEASURES FOR THE NEWLANDS PROJECT

Conservation measures [1]	Expected savings in acre-feet (AF) per year [2]	Notes
1. Water ordering	1,000	Require 48-hour advance notice.
2. Adjust Lahontan Dam releases frequently	++ [3]	Match releases to demand with daily adjustments.
3. Increase accuracy of delivery records and measurement devices	12,000	Account for deliveries to nearest cfs and to nearest minute.
4. Change operation of regulating reservoirs	?? [4]	Eliminate use of all or parts of regulating reservoirs; drain at end of season.
5. Shorten irrigation season	4,000	Reduce by 2 weeks.
6. Control delivery system	++	Eliminate spills, better scheduling, grouping deliveries.
7. System improvements	??	O&M activity: repair leaky gates, reshape canals, improve measuring devices.
8. Dike off 2/3 S-Line Reservoir	2,720	500 ft. dike; (5' evaporation, 0.75' seepage).
9. Dike off south half of Harmon Reservoir	2,130	5,000 ft. dike; large savings considering canal losses (5' evap., 1.8' seepage).
10. Dike off west half of Sheckler Reservoir	2,400	6,000 ft. dike.
11. Eliminate use of Sheckler Reservoir	4,000	Use for Lahontan spill capture only; restore 200 ft. of E-Canal; A-Canal is OK.
12. Line 20 miles of Truckee Canal [5]	20,000	Reduces O&M.
13. Line large canals	26,100–31,000	Line large net losers first.
14. Line regulatory reservoirs	2.3 AF/acre	
15. Reuse drain water for irrigation	7,100	Assuming blended water quality would be adequate
16. Ditch rider training each year	??	
17. Canal automation	??	Reduced canal fluctuations.
18. Community rotation system	??	Grouping deliveries by area.
19. Reclamation Reform Act water conservation plan:	??	District implementation of water conservation plan.
a. Weed and phreatophyte control		

POSSIBLE WATER CONSERVATION MEASURES FOR THE NEWLANDS PROJECT—Continued

Conservation measures [1]	Expected savings in acre-feet (AF) per year [2]	Notes
b. Fix gate leaks		
c. Water measurement		
d. Automation		
e. Communication		
20. Pumps and wells for small diverters	400	
21. Water pricing by amount used	++	Incurs administrative costs to implement.
22. Incentive programs	??	For District personnel and/or water users.
23. Drain canals	1,065	At the end of each irrigation season.
24. Acquire parcels with inefficient delivery[6]	22,280	Acquire and retire water rights from irrigated acreage with particularly inefficient delivery. Lesser savings from transferring water rights to lands with more efficient delivery.

[1] The first seven measures were considered in developing the water budget in Table 1 for the 1988 OCAP. Additional measures could be implemented by the District to help achieve efficiency requirements.
[2] Water savings have been updated in accordance with Bureau of Reclamation's Report to Congress on Newlands Project Efficiency, April 1994.
[3] ++ indicates a positive number for savings but not quantifiable at this time.
[4] ?? indicates uncertainty as to savings.
[5] This measure was included in the 1988 OCAP and effects overall Project efficiency; it is recognized that savings from this measure are not accounted for in the OCAP.
[6] Identified in the 1994 BOR Efficiency Study: 31 Corporation, below Sagouspe Dam, and N Canal.

(5) The measures in paragraph (c)(4) of this section are discretionary choices for the District. The range of measures available to the District provides a level of assurance that the target efficiency is reasonably achievable. The resultant efficiency targets were also compared to the range of efficiencies actually experienced by other irrigation systems that were considered comparable in order to provide a further check on ''reasonable.'' Most of the delivery losses are relatively constant regardless of the amount of deliveries. The efficiency will necessarily vary with the amount of headgate deliveries.

(6) The target efficiency for any annual valid headgate delivery can be derived from the table in Appendix A to this part.

§ 418.13 Maximum allowable limits.

(a) Maximum allowable diversions. (1) A provisional water budget in the Newlands Project Water Budget table must be recalculated for each irrigation season to reflect anticipated water-righted acres to be irrigated. At the start of the irrigation season, the maximum allowable diversion (MAD) for each year must be determined by revising the first 10 lines of the Newlands Project Water Budget table based on acres of eligible land anticipated to actually be irrigated in that year (§ 418.9(a)) and the water duties for those lands (§ 418.10). At the end of the irrigation season, the required target efficiency must be recalculated for the irrigation season based on the actual irrigated acres and percent use of headgate entitlements.

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NEWLANDS PROJECT WATER BUDGET

Line		1988 OCAP[1], Base	1988 OCAP, 1992 Assumptions	1988 0CAP, 1992 w/o Additional Acres	1995 Example
1	Irrigated Acreage (acres)	60,900	64,850	61,630	59,075
2	Maximum Headgate Entitlement [2]	226,450	237,485	226,555	206,230
	Distribution System Losses				
	Evaporation:				
3	Canals/Laterals	6,000	6,200	6,000	5,838
4	Regulatory Reservoirs	15,000	7,500	7,500	7,500
	Seepage:				
5	Canals/Laterals	50,000	51,000	48,500	46,481
6	Regulatory Reservoirs	7,000	4,000	4,000	4,000
7	Operational Losses	87,980	40,800	39,400	38,270
8	TOTAL LOSSES [3]	165,980	109,500	105,400	102,089
9	Max. Allowable Diversion[4] (MAD)	392,430	346,985	331,955	308,319
10	Projected Efficiency (%) [5] Assuming 100% Water Use	58.4	68.4	68.2	66.9
11	Expected Headgate Entitlement Unused[6]	20,930	23,700	22,700	13,611
12	Diversion Reduction for Unused Water[7]	25,430	26,500	25,400	15,279
13	Expected Irrigation Diversions[8]	367,000	320,485	306,555	293,040
14	Expected Efficiency (%) [9]	56.0	66.7	66.5	65.7 [10]

1. All values are in acre-feet except where noted. The first 3 columns of numbers come from the 1988 OCAP, Table 1.
2. Derived by multiplying the acreage by the appropriate water duty.
3. In deriving the 1988 OCAP water budget, it was recognized that the District had reduced losses by 7,400 acre-feet prior to 1988.
4. Maximum Headgate Entitlement (line 2) plus Total Losses (line 8).
5. Maximum Headgate Entitlement (line 2) divided by Maximum Allowable Diversion (line 9) multiplied by 100.
6. Water delivery records show that, historically, lands have been irrigated with less than their full entitlement. In the 1988 OCAP base, the unused portion of the entitlement was assumed to be approximately 9 percent; in the 1988 OCAP 10 percent; in the 1995 example 6.6 percent.
7. Unused Water (line 11) plus a proportional share of Operational Loss (line 7).
8. Maximum Allowable Diversion (line 9) minus Diversion Reduction (line 12).
9. Maximum Headgate Entitlement (line 2) minus Unused Water (line 11) divided by Expected Irrigation Diversion (line 13) multiplied by 100.
10. Expected efficiency at 93.4 percent use of headgate entitlement; other entries based on 90 percent.

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(2) The MAD will be calculated annually to ensure an adequate water supply for all water right holders whose water use complies with their decreed entitlement and this part. The MAD is the maximum amount of water permitted to be diverted for irrigation use on the Project in that year. It is calculated to ensure full entitlements can be provided, but is expected to significantly exceed Project requirements. The MAD will be established by the Bureau at least 2 weeks before the start of each irrigation season. All releases of water from Lahontan Reservoir and diversions from the Truckee Canal (including any diversions from the Truckee Canal to Rock Dam Ditch) must be charged to the MAD except as provided in §§ 418.23 and 418.35 of this part.

(3) On the basis of the methodology adopted in this part (i.e., actual irrigated acres multiplied by appropriate water duties divided by established project efficiency) an example of the MAD calculated for the projected irrigated acreage as shown in the Newlands Project Water Budget table would be 308,319 acre-feet for the 1995 Example. The sample MAD corresponds to a system efficiency for full deliveries at 66.9 percent for 1995 actual acres. Target efficiencies must be based on the percentage of maximum headgate entitlement delivered and not on the percent of water supply available.

(4) The table Expected Project Distribution System Efficiency shows the target efficiencies which will be used over the range of irrigated acreage and percent use of entitlement expected in the future. At the beginning of the irrigation season, the target efficiencies from the Expected Project Distribution System Efficiency table used to calculate the MAD will be based on the expected irrigated acreage and expected percent use of entitlement. At the end of the irrigation season, the actual acreage irrigated and actual percent use of entitlement will be used to determine the required efficiency from the Expected Project Distribution System Efficiency. The target efficiencies are read directly from the table if the acreage and use of entitlement values are shown, otherwise the target efficiency must be extrapolated from the table or calculated using the Efficiency Equation. Appendix A of this part shows the calculations used to derive the Efficiency Equation and the efficiency targets.

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Expected Project Distribution System Efficiency (Not Valid Below 75 Percent Headgate Delivery)														
Project Acreage	Efficiency Equation A and B values: Effic. = AxD + B		Actual Project Headgate Delivery Expressed as a Percent of Full Entitlement (efficiency equation variable D)											
	A	B	75%	80%	85%	90%	91%	92%	93%	94%	95%	96%	98%	100%
64,850	0.1840	49.02	62.8	63.7	64.7	65.6	65.8	65.9	66.1	66.3	66.5	66.7	67.1	67.4
64,500	0.1842	48.97	62.8	63.7	64.6	65.5	65.7	65.9	66.1	66.3	66.5	66.7	67.0	67.4
64,000	0.1845	48.90	62.7	63.7	64.6	65.5	65.7	65.9	66.1	66.2	66.4	66.6	67.0	67.3
63,500	0.1847	48.83	62.7	63.6	64.5	65.5	65.6	65.8	66.0	66.2	66.4	66.6	66.9	67.3
63,000	0.1850	48.76	62.6	63.6	64.5	65.4	65.6	65.8	66.0	66.2	66.3	66.5	66.9	67.3
62,500	0.1853	48.69	62.6	63.5	64.4	65.4	65.5	65.7	65.9	66.1	66.3	66.5	66.8	67.2
62,000	0.1856	48.62	62.5	63.5	64.4	65.3	65.5	65.7	65.9	66.1	66.2	66.4	66.8	67.2
61,500	0.1858	48.54	62.5	63.4	64.3	65.3	65.5	65.6	65.8	66.0	66.2	66.4	66.8	67.1
61,000	0.1861	48.47	62.4	63.4	64.3	65.2	65.4	65.6	65.8	66.0	66.1	66.3	66.7	67.1
60,500	0.1864	48.39	62.4	63.3	64.2	65.2	65.4	65.5	65.7	65.9	66.1	66.3	66.7	67.0
60,000	0.1867	48.31	62.3	63.3	64.2	65.1	65.3	65.5	65.7	65.9	66.1	66.2	66.6	67.0
59,500	0.1870	48.24	62.3	63.2	64.1	65.1	65.3	65.4	65.6	65.8	66.0	66.2	66.6	66.9
59,000	0.1873	48.16	62.2	63.1	64.1	65.0	65.2	65.4	65.6	65.8	66.0	66.1	66.5	66.9
58,500	0.1876	48.08	62.1	63.1	64.0	65.0	65.1	65.3	65.5	65.7	65.9	66.1	66.5	66.8
58,000	0.1879	47.99	62.1	63.0	64.0	64.9	65.1	65.3	65.5	65.7	65.8	66.0	66.4	66.8
57,500	0.1882	47.91	62.0	63.0	63.9	64.9	65.0	65.2	65.4	65.6	65.8	66.0	66.4	66.7
57,000	0.1886	47.83	62.0	62.9	63.9	64.8	65.0	65.2	65.4	65.6	65.7	65.9	66.3	66.7
56,500	0.1889	47.74	61.9	62.9	63.8	64.7	64.9	65.1	65.3	65.5	65.7	65.9	66.3	66.6
56,000	0.1892	47.66	61.8	62.8	63.7	64.7	64.9	65.1	65.3	65.4	65.6	65.8	66.2	66.6
55,500	0.1895	47.57	61.8	62.7	63.7	64.6	64.8	65.0	65.2	65.4	65.6	65.8	66.1	66.5
55,000	0.1899	47.48	61.7	62.7	63.6	64.6	64.8	64.9	65.1	65.3	65.5	65.7	66.1	66.5
54,500	0.1902	47.39	61.7	62.6	63.6	64.5	64.7	64.9	65.1	65.3	65.5	65.6	66.0	66.4
54,000	0.1906	47.30	61.6	62.5	63.5	64.4	64.6	64.8	65.0	65.2	65.4	65.6	66.0	66.4
53,500	0.1909	47.20	61.5	62.5	63.4	64.4	64.6	64.8	65.0	65.1	65.3	65.5	65.9	66.3
53,000	0.1913	47.11	61.5	62.4	63.4	64.3	64.5	64.7	64.9	65.1	65.3	65.5	65.9	66.2
52,500	0.1916	47.01	61.4	62.3	63.3	64.3	64.4	64.6	64.8	65.0	65.2	65.4	65.8	66.2
52,000	0.1920	46.91	61.3	62.3	63.2	64.2	64.4	64.6	64.8	65.0	65.2	65.3	65.7	66.1

(5) Adjustments in the MAD must be made by the Bureau each year based on changes in irrigated eligible land from the

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(5) Adjustments in the MAD must be made by the Bureau each year based on changes in irrigated eligible land from the prior year and subsequent decisions concerning transfers of Project water rights, using the methodology established in this section.

(6) If the MAD for a given year will not meet the water delivery requirements for the eligible land to be irrigated due to weather conditions, canal breaks, or some other unusual or unforeseen condition, the District must ask the Bureau for additional water.

(i) The District's request must include a written statement containing a detailed explanation of the reasons for the request.

(ii) The Bureau must promptly review the request and after consultation with the Federal Water Master and other interested parties, will determine if the request or any portion of it should be approved. The Bureau will make reasonable adjustments for unforeseen causes or events but will not make adjustments to accommodate waste or Project inefficiency or other uses of water not in accordance with this part or with State and Federal law.

(iii) The Bureau will then notify the District of its determination. If the District does not agree with the Bureau's decision, it may seek judicial review. The Bureau and the District will seek to expedite the court proceeding in order to minimize any potential adverse effects.

(b) *Maximum allowable efficiency debits (MED).* The debits in Lahontan Reservoir storage from the District's actual conveyance efficiency not achieving the target efficiency can accumulate over time. If these amounts of borrowed storage get too large they may not be offset later by increased efficiencies and may severely affect the District's water users by imposing an added ''drought'' on top of a real one. Therefore, the maximum efficiency debit cushion is set at 26,000 acre-feet. However, unlike the MAD, it only applies to the subsequent year's operation. The MED is approximately 9 percent of the headgate entitlements.

Monitoring Diversions

§ 418.14 Recordkeeping requirements.

(a) By the end of each month, the District must submit to the Bureau's Lahontan Area Office reports for the previous month which document monthly inflow and outflow in acre-feet from the Truckee and Carson divisions of the Project for that month. Reports must include any data the Bureau may reasonably require to monitor compliance with this part.

(b) Accounting for farm headgate deliveries must be based on the amount of water actually delivered to the water user. Project operations must provide for the amount of water ordered and the distribution system losses.

(c) The District must keep records of all domestic and other water uses showing the purpose and amount of water usage for each entity. The District must make the records available for review by the Bureau upon request. The Bureau may audit all records kept by the District.

§ 418.15 Operations monitoring.

(a) The Bureau will work with the District to monitor Project operations and will perform field inspections of water distribution during the irrigation season.

(1) Staff members of the Bureau's Lahontan Area Office and the District will meet as often as necessary during the irrigation season after each water distribution report has been prepared to examine the amounts of water used to that point in the season.

(2) On the basis of the information obtained from field observations, water use records, and consultations with District staff, the Bureau will determine at monthly intervals whether the rate of diversion is consistent with this part for that year.

(3) The District will be informed in writing of suggested adjustments that may be made in management of diversions and releases as necessary to achieve target efficiencies and stay within the MAD.

(b) Project operations will be monitored in part by measuring flows at key locations. Specifically, Project diversions (used in the calculations under § 418.18 below) will be determined by:

(1) Adding flows measured at:

(i) Truckee Canal near Wadsworth—U.S. Geological Survey (USGS) gauge number 10351300;

(ii) Carson River below Lahontan Dam—USGS gauge number 10312150;

(iii) Rock Dam Ditch near the end of the concrete lining; and

(2) Subtracting:

(i) Flows measured at the Truckee Canal near Hazen—USGS gauge number 10351400;

(ii) The Carson River at Tarzyn Road near Fallon (below Sagouspe Dam) for satisfying water rights outside of the Project boundaries as described in § 418.25, USGS gauge number 10312275;

(iii) Estimated losses in the Truckee Canal; and

(iv) Spills, precautionary drawdown, and incentive water released at Lahontan Dam under §§ 418.24 and 418.36.

Operations and Management

§ 418.16 Using water for power generation.

All use of Project water for power generation must be incidental to releases charged against Project diversions, precautionary drawdown, incentive water (§ 418.35), or spills.

§ 418.17 Truckee and Carson River water use.

Project water must be managed to make maximum use of Carson River water and to minimize diversions of Truckee River water through the Truckee Canal. This will make available as much Truckee River water as possible for use in the lower Truckee River and Pyramid Lake.

§ 418.18 Diversions at Derby Dam.

(a) Diversions of Truckee River water at Derby Dam must be managed to maintain minimum terminal flow to Lahontan Reservoir or the Carson River except where this part specifically permits diversions.

(b) Diversions to the Truckee Canal must be managed to achieve an average terminal flow of 20 cfs or less during times when diversions to Lahontan Reservoir are not allowed (the flows must be averaged over the total time diversions are not allowed in that calendar year; i.e., if flows are not allowed in July and August and then are allowed in September then not allowed in October and November, the average flow will be averaged over the four months of July, August, October, and November).

(c) The Bureau will work cooperatively with the District on monitoring the flows at the USGS gage on the Truckee Canal near Hazen to determine if and when flows are in excess of those needed in accord with this part and bringing the flows back into compliance when excessive.

(d) Increases in canal diversions which would reduce Truckee River flows below Derby Dam by more than 20 percent in a 24-hour period will not be allowed when Truckee River flow, as measured by the gauge below Derby Dam, is less than or equal to 100 cfs.

(e) Diversions to the Truckee Canal will be coordinated with releases from Stampede Reservoir and other reservoirs, in cooperation with the Federal Water Master, to minimize fluctuations in the Truckee River below Derby Dam in order to meet annual flow regimes established by the United States Fish and Wildlife Service for listed species in the lower Truckee River.

§ 418.19 Diversions from the Truckee River to the Truckee Division.

Sufficient water, if available, will be diverted from the Truckee River through the Truckee Canal to meet the direct irrigation, domestic and other entitlements of the Truckee Division.

§ 418.20 Diversions from the Truckee River to Lahontan Reservoir, January through June.

(a) Truckee River diversions through the Truckee Canal will be made to meet Lahontan Reservoir end-of-month storage objectives for the months of January through June. The current month storage objective will be based, in part, on the monthly Natural Resources Conservation Service (NRCS) April through July runoff forecast for the Carson River near Fort Churchill. The forecast will be used to determine the target storage for Lahontan Reservoir and anticipated diversion requirements for the Carson Division. The Bureau, in consultation with the District, Federal Water Master, Fish and Wildlife Service, the Pyramid Lake Paiute Tribe, and other affected parties, will determine the exceedance levels and predicted Carson River inflows based on the reliability of the NRCS forecast and other available information such as river forecasts from other sources. The end-of-month storage objectives may be adjusted any time during the month as new forecasts or other information become available.

(b) The January through June storage objective will be calculated using the following formula:

LSOCM=TSM/J − (C1* AJ)+L+(C2* CDT)

Where:

(1) LSOCM=current end-of-month storage objectives for Lahontan Reservoir.

(2) TSM/J=current end-of-month May/June Lahontan Reservoir target storage.

(3) C1* AJ=forecasted Carson River inflow for the period from the end of the current month through May or June, with AJ being the Bureau's April through July runoff forecast for the Carson River at Fort Churchill and C1 being an adjustment coefficient.

(4) L=an average Lahontan Reservoir seepage and evaporation loss from the end of the current month through May or June.

(5) C2 * CDT=projected Carson Division demand from the end of the current month through May or June, with CDT being the total Carson Division diversion requirement (based on eligible acres anticipated to be irrigated times the appropriate duty times a 95 percent usage rate), and C2 being the estimate of the portion of the total diversion requirement to be delivered during this period.

(6) Values for TSM/J will vary with the Carson Division water demand as shown in § 418.22 and the Adjustments to Lahontan Reservoir Storage Targets table. Values C1, L and C2 are defined in the following table along with an example of TSM/J for Carson River water demand of 271,000 acre-feet.

MONTHLY VALUES FOR LAHONTAN STORAGE COMPUTATIONS

	January	February	March	April	May	June
TSM/J	174.0	174.0	174.0	174.0	174.0	190.0
C1/MAY	0.863	0.734	0.591	0.394		
C1/JUNE	1.190	1.061	0.918	0.721	0.327	
L/MAY	13.9	12.5	9.9	7.1		
L/JUNE	18.2	16.8	14.2	11.4	4.3	
C2/MAY	0.30	0.30	0.28	0.18		
C2/JUNE	0.47	0.47	0.45	0.35	0.17	

(c) The Lahontan Reservoir storage objective for each month is contained in the following table.

LAHONTAN RESERVOIR STORAGE OBJECTIVES

Period	Monthly storage objective
January through April	Lowest of the May calculation, the June calculation, or full reservoir.
May	Lower of the June calculation or full reservoir.
June	June storage target.

(d) Once the monthly Lahontan Reservoir storage objective has been determined, the monthly diversion to the Project from the Truckee River will be based upon water availability and Project demand as expressed in the following relationship:

TRD=TDD+ TCL+CDD+LRL+ LSOCM − ALRS − CRI

Where:

(1) TRD=current month Truckee River diversion in acre-feet to the Project.

(2) TDD=current month Truckee Division demand.

(3) TCL = current month Truckee Canal conveyance loss.

(4) CDD = current month Carson Division demand.

(5) LRL = current month Lahontan Reservoir seepage and evaporation losses.

(6) LSOCM = current month end-of-month storage objective for Lahontan Reservoir.

(7) ALRS = current month beginning-of-month storage in Lahontan Reservoir. (Includes accumulated Stampede credit described below and further adjusted for the net efficiency penalty or efficiency credit described in §§ 418.12, 418.36, and 418.37).

(8) CRI = current month anticipated Carson River inflow to Lahontan Reservoir (as determined by Reclamation in consultation with other interested parties).

(e) The following procedure is intended to ensure that monthly storage objectives are not exceeded. It may be implemented only if the following conditions are met:

(1) Diversions from the Truckee River are required to achieve the current

month Lahontan Reservoir storage objective (LSOCM);

(2) Truckee River runoff above Derby Dam is available for diversion to Lahontan Reservoir;

(3) Sufficient Stampede Reservoir storage capacity is available.

(f) The Bureau, in consultation with the Federal Water Master, the District, Fish and Wildlife Service, the Bureau of Indian Affairs, and the Pyramid Lake Paiute Tribe will determine whether the calculated current month Truckee River diversion to Lahontan Reservoir (TRD-TDD-TCL) may be reduced during that month and the amount of reduction credit stored in Stampede Reservoir.

(1) Reductions in diversions may begin in November and continue until the end of June.

(2) Reductions in diversions to Lahontan Reservoir with credit storage in Stampede Reservoir may be implemented to the extent that:

(i) The reduction is in lieu of a scheduled release from Stampede Reservoir for the purpose of supplementing flows to Pyramid Lake; and/or

(ii) Water is captured in Stampede Reservoir that is scheduled to be passed through and diverted to the Truckee Canal.

(3) The Fish and Wildlife Service must approve any proposal to reduce diversions to Lahontan Reservoir for Newlands Project credit purposes without a comparable reduction in release from Stampede Reservoir or any conversion of Stampede Reservoir project water to Newlands Project credit water.

(4) The diversion to Lahontan Reservoir may be adjusted any time during the month as revised runoff forecasts become available. The accumulated credit will be added to current Lahontan Reservoir storage (ALRS) in calculating TRD. If the sum of accumulated credit and Lahontan Reservoir storage exceeds 295,000 acre-feet, credit will be reduced by the amount in excess of 295,000 acre-feet. Credit will also be reduced by the amount of precautionary drawdown or spills in that month. If the end-of-month storage in Lahontan Reservoir plus the accumulated credit in Stampede Reservoir at the end of June exceeds the end-of-month storage objective for Lahontan, the credit will be reduced by the amount exceeding the end-of-month storage objective.

(5) Following consultation with the District, the Federal Water Master, and other interested parties as appropriate, the Bureau will release credit water as needed for Project purposes from July 1 through the end of the irrigation season in which the credit accrues with timing priority given to meeting current year Project irrigation demands.

(6) Conveyance of credit water in the Truckee Canal must be in addition to regularly scheduled diversions for the Project and will be measured at the USGS gauge number 10351300 near Wadsworth.

(7) Newlands credit water in Stampede Reservoir storage will be subject to spill and will not carry over to subsequent years. Newlands credit water in Stampede can be exchanged to other reservoirs and retain its priority. The credit must be reduced to the extent that Lahontan Reservoir storage plus accumulated credit at the end of the previous month exceeds the storage objectives for that month. If Newlands credit water is spilled, it may be diverted to Lahontan Reservoir subject to applicable storage targets.

(i) The Bureau, in consultation with the District, the Federal Water Master, and other interested parties, may release Newlands Project credit water before July 1.

(ii) If any Newlands credit water remains in Stampede Reservoir storage after the end of the current irrigation season in which it accumulated, it will convert to water for cui-ui recovery and will no longer be available for Newlands credit water.

(iii) Newlands credit water stored in Stampede Reservoir will be available for use only on the Carson Division of the Newlands Project.

(g) Subject to the provisions of § 418.20 (b), LSOCM may be adjusted as frequently as necessary when new information indicates the need and diversions from the Truckee River to the Truckee Canal must be adjusted daily or otherwise as frequently as necessary to meet the monthly storage objective.

§ 418.21 Diversion of Truckee River water to Lahontan Reservoir, July through December.

Truckee River diversions through the Truckee Canal to Lahontan Reservoir from July through December must be made only in accordance with the Adjustments to Lahontan Reservoir Storage Targets table and § 418.22. Diversions shall be started to achieve the end-of-month storage targets listed in the table in § 418.22 and will be discontinued when storage is forecast to meet or exceed the end-of-month storage targets at the end of the month. Diversions may be adjusted any time during the month as conditions warrant (i.e., new forecasts, information from other forecasts becoming available, or any other new information that may impact stream forecasts).

§ 418.22 Future adjustments to Lahontan Reservoir storage targets.

(a) The Lahontan Reservoir storage targets must be adjusted to accommodate changes in water demand in the Carson Division. Using the information reported by the District by March 1 of each year on eligible land expected to be irrigated and end-of-year data on eligible land actually irrigated (§ 418.9(b)), the Bureau will determine if the Lahontan Reservoir storage targets need to be changed. If no change is needed, the storage targets currently in effect will remain in effect.

(1) Only the actual water demand reported for full water years (100 percent water supply) will be considered. Targets will not be changed based on water demand reported for less than full water years.

(2) All changes in storage targets must start on October 1 of any year. If information provided by March 1 and other available information indicates that the Lahontan Reservoir storage targets must be changed, the new set of storage targets must be applied starting October 1 of the same year and remain in effect until changed according to this section.

(b) All changes to storage targets will be made according to the table in this section. The table of storage targets has been developed to provide a consistent Project water supply over a range of demands.

(1) A storage target adjustment must be made in increments of thousands of acre-feet for the change as indicated in the column listing Carson Division Demand and the complete set of monthly targets must be applied.

(2) If the change in reported water demand is above or below the values in the table of storage targets, the adjustment to the storage targets can be calculated. The calculated adjustment is the number that would appear in the column Target Adjustment in the table. The calculated Target Adjustment is then added or subtracted to the base storage target for each month. Target Adjustments must be made in whole increments of 1,000 acre-feet and calculated values will be rounded to the nearest 1,000 acre-feet.

(i) For demands greater than those set forth on the table, the formula for the Target Adjustment is: Target Adjustment = 0.00208 (Demand in acre-feet—271,000 acre-feet). For example, if water demand increased to 292,635 acre-feet per year, the Target Adjustment calculation would be = $0.00208 \times (292{,}535 - 271{,}000)$. The result would be a Target Adjustment of 45 or 45,000 acre-feet. This would be added to the base monthly storage target values

so, the January–May target would be 219,000 acre-feet, June would be 235,000 acre-feet, and so on.

(ii) For demands less than those set forth on the table, the formula for the Target Adjustment is: Target Adjustment = 0.00174 (Demand in acre-feet—271,000 acre-feet). For example, if water demand decreased to 248,011 acre-feet per year, the Target Adjustment calculation would be = 0.00174×(248,011 − 271,000). The result would be a Target Adjustment of −40 or −40,000 acre-feet. This would be subtracted from the base monthly storage target values so, the January–May target would be 134,000 acre-feet, June would be 150,000 acre-feet, and so on.

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ADJUSTMENTS TO LAHONTAN RESERVOIR STORAGE TARGETS

Increase in Storage Targets for Carson Division Diversion Demand Greater than 271,000 acre-feet									
Target Adjust-ment	Carson Division Demand	Jan-May	June	July	Aug	Sep	Oct	Nov	Dec
0	271.0	174	190	160	100	64	52	74	101
1	271.5	175	191	161	101	65	53	75	102
2	272.0	176	192	162	102	66	54	76	103
3	272.4	177	193	163	103	67	55	77	104
4	272.9	178	194	164	104	68	56	78	105
5	273.4	179	195	165	105	69	57	79	106
6	273.9	180	196	166	106	70	58	80	107
7	274.4	181	197	167	107	71	59	81	108
8	274.8	182	198	168	108	72	60	82	109
9	275.3	183	199	169	109	73	61	83	110
10	275.8	184	200	170	110	74	62	84	111
11	276.3	185	201	171	111	75	63	85	112
12	276.8	186	202	172	112	76	64	86	113
13	277.3	187	203	173	113	77	65	87	114
14	277.7	188	204	174	114	78	66	88	115
15	278.2	189	205	175	115	79	67	89	116
16	278.7	190	206	176	116	80	68	90	117
17	279.2	191	207	177	117	81	69	91	118
18	279.7	192	208	178	118	82	70	92	119
19	280.1	193	209	179	119	83	71	93	120
20	280.6	194	210	180	120	84	72	94	121
21	281.1	195	211	181	121	85	73	95	122
22	281.6	196	212	182	122	86	74	96	123
23	282.1	197	213	183	123	87	75	97	124
24	282.5	198	214	184	124	88	76	98	125
25	283.0	199	215	185	125	89	77	99	126
26	283.5	200	216	186	126	90	78	100	127
27	284.0	201	217	187	127	91	79	101	128
28	284.5	202	218	188	128	92	80	102	129
29	284.9	203	219	189	129	93	81	103	130
30	285.4	204	220	190	130	94	82	104	131
31	285.9	205	221	191	131	95	83	105	132
32	286.4	206	222	192	132	96	84	106	133
33	286.9	207	223	193	133	97	85	107	134
34	287.3	208	224	194	134	98	86	108	135
35	287.8	209	225	195	135	99	87	109	136
36	288.3	210	226	196	136	100	88	110	137
37	288.8	211	227	197	137	101	89	111	138
38	289.3	212	228	198	138	102	90	112	139
39	289.8	213	229	199	139	103	91	113	140
40	290.2	214	230	200	140	104	92	114	141

Decrease in Storage Targets for Carson Division Diversion Demand Less than 271,000 acre-feet									
Target Adjust-ment	Carson Division Demand	Jan-May	June	July	Aug	Sep	Oct	Nov	Dec
0	271.0	174	190	160	100	64	52	74	101
-1	270.4	173	189	159	99	63	51	73	100
-2	269.9	172	188	158	98	62	50	72	99
-3	269.3	171	187	157	97	61	49	71	98
-4	268.7	170	186	156	96	60	48	70	97
-5	268.1	169	185	155	95	59	47	69	96
-6	267.6	168	184	154	94	58	46	68	95
-7	267.0	167	183	153	93	57	45	67	94
-8	266.4	166	182	152	92	56	44	66	93
-9	265.8	165	181	151	91	55	43	65	92
-10	265.3	164	180	150	90	54	42	64	91
-11	264.7	163	179	149	89	53	41	63	90
-12	264.1	162	178	148	88	52	40	62	89
-13	263.5	161	177	147	87	51	39	61	88
-14	263.0	160	176	146	86	50	38	60	87
-15	262.4	159	175	145	85	49	37	59	86
-16	261.8	158	174	144	84	48	36	58	85
-17	261.2	157	173	143	83	47	35	57	84
-18	260.7	156	172	142	82	46	34	56	83
-19	260.1	155	171	141	81	45	33	55	82
-20	259.5	154	170	140	80	44	32	54	81
-21	258.9	153	169	139	79	43	31	53	80
-22	258.4	152	168	138	78	42	30	52	79
-23	257.8	151	167	137	77	41	29	51	78
-24	257.2	150	166	136	76	40	28	50	77
-25	256.6	149	165	135	75	39	27	49	76
-26	256.1	148	164	134	74	38	26	48	75
-27	255.5	147	163	133	73	37	25	47	74
-28	254.9	146	162	132	72	36	24	46	73
-29	254.3	145	161	131	71	35	23	45	72
-30	253.8	144	160	130	70	34	22	44	71
-31	253.2	143	159	129	69	33	21	43	70
-32	252.6	142	158	128	68	32	20	42	69
-33	252.0	141	157	127	67	31	19	41	68
-34	251.5	140	156	126	66	30	18	40	67
-35	250.9	139	155	125	65	29	17	39	66
-36	250.3	138	154	124	64	28	16	38	65
-37	249.7	137	153	123	63	27	15	37	64

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§ 418.23 Diversion of Rock Dam Ditch water.

Project water may be diverted directly to Rock Dam Ditch from the Truckee Canal only when diversions cannot be made from the outlet works of Lahontan Reservoir. Such diversions will require the prior written approval of the Bureau and be used in calculating Project diversions.

§ 418.24 Precautionary drawdown and spills from Lahontan Reservoir.

(a) Even though flood control is not a specifically authorized purpose of the Project, at the request of the District and in consultation with other interested parties and the approval of the Bureau, precautionary drawdown of Lahontan Reservoir may be made to limit potential flood damage along the Carson River. The Bureau will develop criteria for precautionary drawdown in consultation with the District and other interested parties.

(1) The drawdown must be scheduled sufficiently in advance and at such a rate of flow in order to divert as much water as possible into the Project irrigation system for delivery to eligible land or storage in reregulating reservoirs for later use on eligible land.

(2) During periods of precautionary drawdown, or when water is spilled from Lahontan Reservoir, Project diversions will be determined by comparison with other years' data and normalized by comparison of differences in climatological data. The Bureau will estimate the normalization in consultation with the District and other interested parties.

(3) Spills from Lahontan Reservoir and precautionary drawdown of the reservoir to create space for storing flood waters from the Carson River Basin that are in excess of the normalized diversions will not be used in calculating Project diversions.

(4) Water captured in Project facilities as a result of a precautionary drawdown or spill will not be counted as storage in Lahontan Reservoir for the purpose of calculating Truckee River Diversions. Such water will not be counted as diversions to the Project unless such water is beneficially applied as described in (a)(5) of this section.

(5) Water from precautionary drawdowns or spills that is captured in Project facilities must be used to the maximum extent possible, and counted as deliveries to eligible lands in the year of the drawdown. If all the drawdown water captured in Project facilities cannot be used in the year of capture for delivery to eligible lands, then that water must be delivered to eligible lands in subsequent years to the maximum extent possible and counted against the water users' annual allocation.

(b) If a precautionary drawdown in one month results in a failure to meet the Lahontan Reservoir storage objective for that month, the storage objective in subsequent months will be reduced by one-half of the difference between that month's storage objective and actual end-of-month storage. The Bureau is not liable for any damage or water shortage resulting from a precautionary drawdown.

§ 418.25 Water use for other than Newlands Project purposes.

The District will release sufficient water to meet the vested water rights below Sagouspe Dam as specified in the *Alpine* decree. These water rights are usually met by return flows. Releases for these water rights will in no case exceed the portion of 1,300 acre-feet per year not supplied by return flows. This water must be accounted for at the USGS gauge number 10312275 (the Carson River at Tarzyn Road near Fallon). Releases for this purpose will not be considered in determining Project diversions since the lands to which the water is being delivered are not part of the Project. (See § 418.15(b)(2)(ii).) Any flow past this gage in excess of the amount specified in this part will be absorbed by the District as an efficiency loss.

§ 418.26 Charges for water use.

The District must maintain a financing and accounting system which produces revenue sufficient to repay its operation and maintenance costs and to discharge any debt to the United States. The District should give consideration to adopting a system which provides reasonable financial incentives for the economical and efficient use of water.

§ 418.27 Distribution system operation.

(a) The District must permit only its authorized employees or agents to open and close individual turnouts and operate the distribution system facilities. After obtaining Bureau approval, the District may appoint agents to operate individual headgates on a specific lateral if it can be shown that the water introduced to the lateral by a District employee is completely scheduled and can be fully accounted for with a reasonable allowance for seepage and evaporation losses.

(b) If agents need to adjust the scheduled delivery of water to the lateral to accommodate variable field conditions, weather, etc., they must immediately notify the District so proper adjustments can be made in the distribution system. Each agent must keep an accurate record of start and stop times for each delivery and the flow during delivery. This record will be given to the District for proper accounting of water delivered.

(c) The program of using agents to operate individual headgates will be reviewed on a regular basis by the District and the Bureau. If it is found that problems such as higher than normal losses, water not accounted for, etc., have developed on an individual lateral, the program will be suspended and the system operated by District employees until the problems are resolved.

Enforcement

§ 418.28 Conditions of delivery.

There are four basic elements for enforcement with all necessary quantities and review determined in accordance with the relevant sections of this part.

(a) *Valid headgate deliveries.* If water is delivered to ineligible land or in excess of the appropriate water duty then:

(1) The District will stop the illegal delivery immediately;

(2) The District will notify the Bureau of the particulars including the known or estimated location and amounts;

(3) The amount will not be included as a valid headgate delivery for purposes of computing the Project efficiency and resultant incentive credit or debit to Lahontan storage; and

(4) If the amount applies to a prior year, then the amount will be treated directly as a debit to Lahontan storage in the same manner as an efficiency debit.

(b) *District efficiency.* To the extent that the actual District efficiency determined for an irrigation season is greater or less than the established target efficiency, as determined for the corresponding actual valid headgate deliveries, then the difference in efficiency, expressed as a quantity in acre-feet, may be added to or subtracted from the actual Lahontan Reservoir storage level before it is compared to the monthly storage objective as follows:

(1) Greater efficiency—Credited to the District as storage in Lahontan or subtracted from any accumulated debit, or two-thirds as storage in Lahontan for their discretionary use in accordance with state law.

(2) Less efficient—Debited or added to Lahontan storage as an adjustment to the actual storage level.

(c) *Maximum Allowable Diversion (MAD).* The MAD must be computed each year to determine the amount of water required to enable the delivery of

full entitlements at established Project efficiencies. Project diversions must not exceed the MAD. Within the operating year, the Bureau will notify the District in writing of any expected imminent violations of the MAD. The District will take prompt action to avoid such violations. The Bureau will exercise reasonable latitude from month to month to accommodate the District's efforts to avoid exceeding the MAD.

(d) *Maximum Efficiency Debit (MED).* If the MED exceeds 26,000 AF at the end of any given year, the District must prepare and submit to the Bureau for review and approval, a plan detailing the actions the District will take to either earn adequate incentive credits or to restrict deliveries to reduce the MED to less than 26,000 AF by the end of the next year. The plan must be submitted to the Bureau in writing before the date of March 1 immediately subsequent to the exceeding of the MED. If the District fails to submit an approvable plan, Project allocations will be reduced by an amount equal to the MED in excess of 26,000 plus 13,000 (one-half the allowable MED). Nominally this will mean a forced reduction of approximately five percent of entitlements. The Bureau will notify the District in writing of the specific allocation and method of derivation in sufficient time for the District to implement the allocation. Liabilities arising from shortages occasioned by operation of this provision must be the responsibility of the District or individual water users.

§ 418.29 Project management.

In addition to the provisions of § 418.28, if the District is found to be operating Project facilities or any part thereof in substantial violation of this part, then, upon the determination by the Bureau, the Bureau may take over from the District the care, operation, maintenance, and management of the diversion and outlet works (Derby Dam and Lahontan Dam/Reservoir) or any or all of the transferred works by giving written notice to the District of the determination and its effective date. Following written notification from the Bureau, the care, operation, and maintenance of the works may be retransferred to the District.

§ 418.30 Provisions required in future contracts.

The Bureau must provide in new, amended, or replacement contracts for the operation and maintenance of Project works, for the reservation by the Secretary of rights and options to enforce this part.

Water Management and Conservation

§ 418.31 Conservation measures.

(a) Specific conservation actions will be needed for the District and its members to achieve a reasonable efficiency of operation as required by this part. The District is best able to determine the particular conservation measures that meet the needs of its water users. This ensures that the measures reflect the priorities and collective judgment of the water users; and will be practical, understandable and supported. The District also has the discretion to make changes in the measures they adopt as conditions or results dictate.

(b) The District will keep the Bureau informed of the measures they expect to utilize during each year. This will enable the Bureau to stay apprised of any helpful information that may, in turn, help the Bureau assist other irrigation districts. The Bureau will work cooperatively in support of the District's selection of measures and methods of implementation.

§ 418.32 Cooperative programs.

(a) The Bureau and the District will work cooperatively to develop a water management and conservation program to promote efficient management of water in the Project. The program will emphasize developing methods, including computerization and automation, to improve the District's operations and procedures for greater water delivery conservation.

(b) The Bureau will provide technical assistance to the District and cooperatively assist the District in their obligations and efforts to:

(1) Document and evaluate existing water delivery and measurement practices:

(2) Implement improvements to these practices; and

(3) Evaluate and, where practical, implement physical changes to Project facilities.

Implementation

§ 418.33 Purpose of the implementation strategy.

The intent of the implementation strategy for this part is to ensure that the District delivers water within entitlements at a reasonable level of efficiency as a long term average.

(a) The incentives and disincentives provided in this part are designed to encourage local officials with responsibilities for Project operations to select and implement through their discretionary actions, operating strategies which achieve the principles of this part.

(b) The specified efficiencies in the Expected Project Distribution System Efficiency table (§ 418.13 (a)(4)) were developed considering implementation of reasonable conservation measures, historic project operations, economics, and environmental effects.

(c) The efficiency target will be used as a performance standard to establish at the end of each year on the basis of actual operations, whether the District is entitled to a performance bonus in the form of incentive water or a reduction in storage for the amount borrowed ahead.

§ 418.34 Valid headgate deliveries.

Project water may be delivered to headgates only as provided in §§ 418.8 and 418.10. Water delivered to lands that are not entitled to be irrigated or not in accord with decreed water duties is difficult to quantify at best because it is not typically measured. Since it is not likely to be a part of the total actual headgate deliveries, yet is a part of the total deliveries to the Project, it will manifest itself directly as a lower efficiency. Thus, it will either reduce the District's incentive credit or increase the storage debit by the amount improperly diverted. All other users outside the Project are thereby held harmless but the District incurs the consequence. This approach should eliminate any potential disputes between the District and the Bureau regarding the quantity of water misappropriated.

§ 418.35 Efficiencies.

The established target efficiencies under this part are shown in the Expected Project Distribution System Efficiency table (§ 418.13 (a)(4)). The efficiency of the Project will vary with the amount of entitlement water actually delivered at the headgates. Since most of the distribution system losses such as evaporation and seepage do not change significantly with the amount of water delivered (i.e., these losses are principally a function of water surface area and the wetted perimeter of the canals), the Project efficiency requirement is higher as the percent of entitlement water actually delivered at the headgates increases. The actual efficiency is calculated each year after the close of the irrigation season based on actual measured amounts. The application of any adjustments to Lahontan Reservoir storage or Truckee River diversions resulting from the efficiency is always prospective.

§ 418.36 Incentives for additional long term conservation.

(a) As an incentive for the District to increase the efficiency of the delivery system beyond the expected efficiency of 65.7 percent (66.9 percent with full delivery) as shown in the Newlands Project Water Budget table, 1995 Example, the District will be allowed to store and use the Carson River portion of the saved water at its discretion, in accordance with Nevada State Law and this part.

(1) If the District is able to exceed its expected efficiency, the District may store in Lahontan Reservoir two-thirds (2/3) of the additional water saved. (The remaining one-third (1/3) of the water saved will remain in the Truckee River through reduced diversions to Lahontan Reservoir). This water will be considered incentive water saved from the Carson River and will not be counted as storage in determining diversions from the Truckee River or computing the target storage levels for Lahontan Reservoir under this part.

(2) For purposes of this part, incentive water is no longer considered Project water. The District may use the water for any purpose (e.g., wetlands, storage for recreation, power generation, shortage reduction) that is consistent with Nevada State Law and Federal Law. The water will be managed under the District's discretion and may be stored in Lahontan Reservoir until needed subject to the limitations in (a)(3) of this section.

(3) The amount of incentive water stored in Lahontan Reservoir will be reduced under the following conditions:

(i) There is a deficit created and remaining in Lahontan Reservoir from operations penalties in a prior year;

(ii) The District releases the water from the reservoir for its designated use;

(iii) During a spill of the reservoir, the amount of incentive water must be reduced by the amount of spill; and

(iv) At the discretion of the District, incentive water may be used to offset the precautionary drawdown adjustment to the Lahontan storage objective.

(v) At the end of each year, the amount of incentive water will be reduced by the incremental amount of evaporation which occurs as a result of the increased surface area of the reservoir due to the additional storage. The evaporation rate used will be either the net evaporation measured or the net historical average after precipitation is taken into account. The method of calculation will be agreed to by the District and the Bureau in advance of any storage credit.

(b) An example of this concept is:

Example: *Incentive Operation*—

(1) At the end of the 1996 irrigation season, the Bureau and the District audit the District's water records for 1996. The District's water delivery records show that 194,703 acre-feet of water were delivered to farm headgates. On the basis of their irrigated acreage that year (59,075) the farm headgate entitlement would have been 216,337 acre-feet. On the basis of 90 percent deliveries for 59,075 acres (194,203 divided by 216,337 = 0.90) the established Project efficiency requirement was 65.1 percent.

(2) On the basis of the established Project efficiency (66.1 percent), the Project diversion required to make the headgate deliveries would be expected to be 291,909 acre-feet (194,703 divided by 0.651 = 291,909). An examination of Project records reveals that the District only diverted 286,328 acre-feet which demonstrated actual Project efficiency was 68 percent and exceeded requirements of this part.

(3) The 5,581 acre-feet of savings (291,909–286,328 = 5,581) constitutes the savings achieved through efficiency improvements and the District would then be credited two-thirds (3,721 acre-feet = 5,581 x 2/3) of this water (deemed to be Carson River water savings) as incentive water.

(4) This incentive water may be stored in Lahontan Reservoir or otherwise used by the District in its discretion consistent with State and Federal Law (e.g., power generation, recreation storage, wildlife, drought protection, etc.).

§ 418.37 Disincentives for lower efficiency.

(a) If the District fails to meet the efficiencies established by this part, then, in effect, the District has borrowed from a subsequent year. The amount borrowed will be accounted for in the form of a deficit in Lahontan Reservoir storage. This deficit amount will be added to the actual Lahontan Reservoir storage quantity for the purpose of determining the Truckee River diversions to meet storage objectives as well as all other operating decisions.

(b) The amount of the deficit will be cumulative from year to year but will not be allowed to exceed 26,000 acre-feet (the expected variance between the MAD and actual water use). This limit is expected to avoid increasing the severity of drought and yet still allow for variations in efficiency over time due to weather and other factors. This approach should allow the District to plan its operation to correct for any deficiencies.

(c) The deficit can be reduced by crediting incentive water earned by the District or reducing the percentage of headgate entitlement delivered either through a natural drought or by the District and its water users administratively limiting deliveries while maintaining an efficiency greater than or equal to the target efficiency.

(d) If there is a natural drought and the shortage to the headgates is equal to or greater than the deficit, then the deficit is reduced to zero. If the shortage to headgates is less than the deficit then the deficit is reduced by an amount equal to the headgate shortage. During a natural drought, if the percentage of maximum headgate entitlement delivered is 75 percent or more then the District will be subject to the target efficiencies and resultant deficits or credits.

(e) If the District has a deficit in Lahontan Reservoir and earns incentive water, the incentive water must be used to eliminate the deficit before it can be used for any other purpose. The deficit must be credited on a 1 to 1 basis (i.e., actual efficiency savings rather than ⅓–⅔ for incentive water).

(f) An example of the penalty concept is:

Example: *Penalty*—

In 1996 the District delivers 90 percent of the maximum headgate entitlement or 194,703 acre-feet 216,337 x .90) but actually diverts 308,000 acre-feet. The efficiency of the Project is 63.2 percent (194,703 divided by 308,000). Since the established efficiency of 65.1 percent would have required a diversion of only 299,083 acre-feet (194,703 divided by .651) the District has operated the system with 8,917 acre-feet of excess losses. Therefore, 8,917 acre-feet was borrowed and must be added to the actual storage quantities of Lahontan Reservoir for calculating target storage levels and Truckee River diversions.

§ 418.38 Maximum allowable diversion.

(a) The MAD established in this part is based on the premise that the Project should be operated to ensure that it is capable of delivering to the headgate of each water right holder the full water entitlement for irrigable eligible acres and includes distribution system losses. The MAD will be established (and is likely to vary) each year. The annual MAD will be calculated each year based on the actual acreage to be irrigated that year.

(b) Historically, actual deliveries at farm headgates have been approximately 90 percent of entitlements. This practice is expected to continue but the percentage is expected to change. This variance between headgate deliveries and headgate entitlements will be calculated annually under this part and is allowed to be diverted if needed and thereby provides an assurance that full headgate deliveries can be made. The expected diversion and associated efficiency target for the examples shown in the Newlands Project Water Budget table would be: 285,243 AF and 65.1 percent in 1996 and beyond. These are well below the MAD limits; however, the District may divert up to the MAD if it is needed to meet valid headgate entitlements.

Appendix A to Part 418-Calculation of Efficiency Equation

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Calculation of Efficiency Equation Slope and Y-Intercept for Adjusted OCAP

	1988 OCAP		With Adjusted OCAP										
	Projected for 1992	Without added ac.											
Irrigated Acreage	64,850	61,630	64,850	64,500	64,000	63,500	63,000	62,500	62,000	61,500	61,000	60,500	60,000
Max. Headgate Entitlement	237,485	226,555	226,586	225,363	223,616	221,869	220,122	218,375	216,628	214,881	213,134	211,387	209,640
Distribution System Losses													
Evaporation													
Canals/Laterals	6,200	6,000	6,200	6,178	6,147	6,116	6,085	6,054	6,023	5,992	5,961	5,930	5,899
Reg. Reservoirs	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500
Seepage													
Canals/Laterals	51,000	48,500	51,000	50,728	50,340	49,952	49,564	49,175	48,787	48,399	48,011	47,623	47,234
Reg. Reservoirs	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Operational Losses	40,800	39,400	40,800	40,648	40,430	40,213	39,996	39,778	39,561	39,343	39,126	38,909	38,691
Total System Losses	109,500	105,400	109,500	109,054	108,418	107,781	107,144	106,508	105,871	105,234	104,598	103,961	103,325
100% Use of Entitlement:													
Allowable Diversion	346,985	331,955	336,086	334,417	332,034	329,650	327,266	324,883	322,499	320,115	317,732	315,348	312,965
Conveyance Efficiency	68.44%	68.25%	67.42%	67.39%	67.35%	67.30%	67.26%	67.22%	67.17%	67.13%	67.08%	67.03%	66.99%
75% Use of Entitlement:													
Headgate Ent. Unused	59,371	56,639	56,646	56,341	55,904	55,467	55,031	54,594	54,157	53,720	53,284	52,847	52,410
Headgate Delivery	178,114	169,916	169,939	169,022	167,712	166,402	165,092	163,781	162,471	161,161	159,851	158,540	157,230
Diversion Reduction	68,717	65,554	65,563	65,209	64,704	64,198	63,693	63,187	62,682	62,176	61,671	61,165	60,660
Allowable Diversion	278,268	266,401	270,523	269,208	267,330	265,452	263,574	261,696	259,817	257,939	256,061	254,183	252,305
Conveyance Efficiency	64.01%	63.78%	62.82%	62.78%	62.74%	62.69%	62.64%	62.58%	62.53%	62.48%	62.43%	62.37%	62.32%
Slope	0.1774	0.1787	0.1840	0.1842	0.1845	0.1847	0.1850	0.1853	0.1856	0.1858	0.1861	0.1864	0.1867
Y-Intercept	50.70	50.38	49.02	48.97	48.90	48.83	48.76	48.69	48.62	48.54	48.47	48.39	48.31

Note: (1) The average water duty with Adjusted OCAP assumed to be 3.494 acre-feet/acre based on 1995 conditions.

(2) The conveyance efficiency of the unused entitlement (75% use) assumed to be 86.4% based on Figure 1 and Table 1 of 1988 OCAP.

Calculation of Efficiency Equation Slope and Y-Intercept for Adjusted OCAP

Adjusted OCAP (continued)

Calculation of Efficiency Equation Slope and Y-Intercept for Adjusted OCAP																
Adjusted OCAP (continued)																
Irrigated Acreage	59,500	59,000	58,500	58,000	57,500	57,000	56,500	56,000	55,500	55,000	54,500	54,000	53,500	53,000	52,500	52,000
Max. Headgate Ent.	207893	206146	204399	202652	200905	199158	197411	195664	193917	192170	190423	188676	186929	185182	183435	181688
Distribution Losses																
Evaporation																
Canal/Laterals	5868	5837	5806	5775	5743	5712	5681	5650	5619	5588	5557	5526	5495	5464	5433	5402
Reg. Reservoirs	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500
Seepage																
Canal/Laterals	46846	46458	46070	45682	45293	44905	44517	44129	43741	43352	42964	42576	42188	41800	41411	41023
Reg. Reservoirs	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
Operational Losses	38474	38257	38039	37822	37604	37387	37170	36952	36735	36517	36300	36083	35865	35648	35430	35213
Total System Losses	102688	102051	101415	100778	100141	99505	98868	98231	97595	96958	96321	95685	95048	94411	93775	93138
100% Use of Ent.																
Allowable Diversion	310581	308197	305814	303430	301046	298663	296279	293895	291512	289128	286744	284361	281977	279593	277210	274826
Convey. Efficiency	66.94%	66.89%	66.84%	66.79%	66.74%	66.68%	66.63%	66.58%	66.52%	66.47%	66.41%	66.35%	66.29%	66.23%	66.17%	66.11%
75% Use of Ent.																
Entitlement Unused	51973	51537	51100	50663	50226	49790	49353	48916	48479	48043	47606	47169	46732	46296	45859	45422
Headgate Delivery	155920	154610	153299	151989	150679	149369	148058	146748	145438	144128	142817	141507	140197	138887	137576	136266
Diversion Reduction	60154	59649	59143	58638	58132	57627	57121	56616	56110	55605	55099	54594	54088	53583	53077	52572
Allowable Diversion	250427	248549	246670	244792	242914	241036	239158	237280	235401	233523	231645	229767	227889	226011	224133	222254
Convey. Efficiency	62.26%	62.20%	62.15%	62.09%	62.03%	61.97%	61.91%	61.85%	61.78%	61.72%	61.65%	61.59%	61.52%	61.45%	61.38%	61.31 %
Slope	0.1870	0.1873	0.1876	0.1879	0.1882	0.1886	0.1889	0.1892	0.1895	0.1899	0.1902	0.1906	0.1909	0.1913	0.1916	0.1920
Y-Intercept	48.24	48.16	48.08	47.99	47.91	47.83	47.74	47.66	47.57	47.48	47.39	47.30	47.20	47.11	47.01	46.91
Note: (1) The average water duty with Adjusted OCAP assumed to be 3.494 acre-feet/acre based on 1995 conditions.																
(2) The conveyance efficiency of the unused entitlement (75% use) assumed to be 86.4% based on Figure 1 and Table 1 of 1988 OCAP.																

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